CAPE FEAR **COMMUNITY** COLLEGE

WILMINGTON, NORTH CAROLINA

CATALOG 1990-1991

NOTE

This catalog is published for the purpose of providing information about the College and its programs. Announcements contained herein are subject to change without notice and may not be regarded in the nature of binding obligations on the College or the State. Efforts will be made to keep changes to a minimum, but changes in policy by the North Carolina State Legislature, the Department of Community Colleges, or by local conditions may make some alterations in curricula, fees, etc., necessary.

PRIVACY RIGHTS ACT OF PARENTS AND STUDENTS

PUBLIC LAW 93-380: Cape Fear Community College adheres to the Guidelines developed by the Department of Health, Education and Welfare regarding the Privacy Rights of Parents and Students.

The College provides students and parents of dependent students access to official records directly related to them and limits dissemination of personally identifiable information without the students' consent. Students enrolled at Cape Fear Community College may review guidelines and procedures regarding Public Law 93-380 in the offices of Admissions and Records. Procedures for challenging such record may also be obtained in these offices.

NON-DISCRIMINATION POLICY

Cape Fear Community College's Board of Trustees and Staff recognize the importance of equal opportunity in all phases of the College's operations and have officially adopted a position of nondiscrimination on the basis of race, color, age, religion, national origin, physical handicap, or other non-relevant factors. This policy applies to both students and employees at all levels of the school's operations.

VISITORS

Visitors are always welcome at Cape Fear Community College. The Student Affairs office will provide guide service for groups or individuals on weekdays between 8:00 a.m. and 5:00 p.m. and will answer questions about the school and its programs. Prospective students are requested, when possible, to notify the Student Affairs office when they are going to visit. This will ensure that appropriate staff will be available for questions. The school is open until 10:00 p.m. Monday through Friday and individuals may visit at their convenience.

COVER PHOTO BY
FREDA WILKINS

DESIGN AND TYPESETTING BY
CONRAD POPE
CFCC PRINTING DEPARTMENT

CAPE FEAR **COMMUNITY** COLLEGE

411 North Front Street
Wilmington, N. C. 28401
Phone (919) 343-0481

Cape Fear Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award Associate in Applied Science and Associate in Arts degrees and is a member institution of the North Carolina Department of Community Colleges and the American Association of Community and Junior Colleges.

Catalog of Information

1990 - 1991

"ADMISSION TO ANY AND ALL EDUCATIONAL PROGRAMS OFFERED BY CAPE FEAR COMMUNITY COLLEGE IS MADE WITHOUT REGARD TO RACE, COLOR, SEX, RELIGION, NATIONAL ORIGIN, PHYSICAL HANDICAP OR OTHER NON-RELEVANT FACTORS."

General Information ..... White (1-30)

Technical Curricula ..... Green (31-116)

Trade Curricula ..... Yellow (117-156)

Extension & General Adult Division ..... Blue (157-162)

Administration, Faculty and Staff ..... White (163-167)

VOLUME XXV **APRIL 1990**

TABLE OF CONTENTS

Foreword 6
School Calendar 7
Administration 8
State Board of Community Colleges 8
Local Board of Trustees 8
General Information 9
History 9
Purpose 10
Location 11
Shops and Equipment 11
Areas of Study 12
Admissions Criteria and Information 13
Introduction 13
Previous Education 13
Placement Test 13
Personal Interview 13
Medical Examination 14
Other 14
Admissions Checklist 14
Admission of Nursing Students 14
Admission of Non-Immigrant Alien Students 15
Admitted Student Information 16
Transfer Within the College 16
Proficiency Examination 16
Freshman Orientation 16
Registration 16
Quarter System 16
Course Load 16
Auditing Courses 16
Drop/Add/Late Registration 17
Tuition, Fees, and Refunds 17
Tuition 17
Personnel in the Armed Services 17
Other Costs 17
Payments 17
Refunds 17
Withdrawal 19

Student Financial Aid 19
Grants 19
Other Financial Assistance 20
Veterans Educational Benefits 20
Attendance and Tardiness 21
Grading 21
Incomplete Grades 22
Grade Appeal Policy 22
Quarter Hour Credit 22
Requirements for Graduation 23
Scholastic Honors 23
President's List 23
Dean's List 23
Graduation With High Honors 23
Graduation With Departmental Honors 23
Academic Requirements 23
Probation and Suspension 24
Academic 24
Conduct 24
Special Note to Persons Attending Under the G.I. Bill 24
Right of Appeal 24
Transcript of Records 25
Counseling Services 25
Career Planning and Placement and Testing 25
Career Planning 25
Job Placement 25
Testing 25
Student Activities 26
Health Services 26
The Library 27
The Audio Visual Service Center 27
Sexual Harassment 27
Grievance Procedure 28
Dress 28
Conduct 28
Weapons on Campus 29
Developmental Studies 29
Alumni 30
Technical Curricula 31
Accounting 35
Administrative Office Technology 37

Associate Degree Nursing 39
Basic Law Enforcement Training (Certificate Program) 41
Business Administration 42
Chemical Technology 44
Computer Engineering Technology 46
Criminal Justice—Protective Service Technology 48
Electronics Engineering Technology 50
General Education 52
General Occupational Technology 55
General Office 62
Instrumentation Technology 64
Marine Technology 66
Mechanical Drafting and Design Technology 68
Military Science Technology 70
Paralegal Technology 72
Technical Course Descriptions 75-115
Trade Curricula 117
Air Conditioning, Heating, and Refrigeration 118
Automotive Mechanics 119
Boatbuilding 120
Child Care Worker 121
Industrial Electricity 122
Industrial Mechanics 123
Light Construction 124
Machinist 125
Marine and Diesel Mechanics 127
Practical Nursing 128
Welding 129
Trade Course Descriptions 131-155
Extended Services 157
Continuing Education 157
Human Resources Development Program 158
Literacy Education 158
New Industry Training 160
Programmed Instruction Center 160
Small Business Center 161
Administration, Faculty, & Staff 163

FOREWORD

On behalf of the faculty, staff, trustees, and students, I want to extend to you an invitation to become a part of this outstanding institution. This catalog will furnish you with information that may well assist you in designing your personal and career goals. Most of the information you will need about Cape Fear Community College is contained in this catalog.

You will find the school to have a modern physical plant containing shops, laboratories, and classrooms designed to meet your educational and training needs. The facilities are among the finest in the North Carolina Community College System.

The members of the faculty and staff are well qualified and are anxious to assist you in reaching your educational goals by providing quality instruction and service.

If you decide to enroll, I am sure that you will find it is one of the finest colleges of its kind.

I wish you the best in your pursuit of your educational goals.

Dr. E. Thomas Satterfield
President

SCHOOL CALENDAR

1990 - 1991

FALL QUARTER

Early Registration	August 6 & 7, 1990
Freshmen Orientation	August 30, 1990
Registration	August 31 and September 4, 1990
Classes Begin	September 5, 1990
Classes End	November 21, 1990
Holiday	September 3, 1990

WINTER QUARTER

Early Registration	November 6* & 7,1990
Registration	November 26 & 27, 1990
Classes Begin	November 28, 1990
Classes End	March 1, 1990
Holidays	November 22 & 23, 1990
Holidays	December 17, 1990 thru January 1, 1991
Holiday	January 21, 1991

SPRING QUARTER

Early Registration	February 6* & 7, 1991
Registration	March 5 & 6, 1991
Classes Begin	March 7, 1991
Classes End	May 24, 1991
Holidays	March 29 and May 27, 1991

SUMMER QUARTER

Early Registration	May 1* & 2, 1991
Registration	May 28 & 29, 1991
Classes Begin	May 30, 1991
Classes End	August 16, 1991
Holiday	July 4, 1991
Early Registration for Fall, 1991	August 6* & 7, 1991

*These classes have been set aside for early registration and classes will not meet on November 6, 1990, February 6, 1991, February 6, 1991, May 1, 1991, and August 6, 1991.

ADMINISTRATION

The Honorable Robert W. Scott,
Department of Community Colleges, State President.
Dr. E. Thomas Satterfield,
Cape Fear Community College, President.

STATE BOARD OF COMMUNITY COLLEGES

Mrs. Barbara K. Allen ..... Raleigh, NC
Mr. Royce N. Angel ..... Wilmington, NC
Mr. U. James Bennett ..... Monroe, NC
The Honorable Harlan E. Boyles, State Treasurer ..... Ex Officio, Raleigh, NC
Mr. Asa B. Dail ..... New Bern, NC
Mr. Richard L. Daugherty ..... Research Triangle Park, NC
Mr. Grady G. Franklin, Jr. ..... Mooresboro, NC
The Honorable James Gardner, Lieutenant Governor Ex Officio, ... Raleigh, NC
Mr. Meigs Coker Golden ..... Sanford, NC
Mr. Edward J. High ..... Charlotte, NC
The Honorable J. P. Huskins ..... Statesville, NC
Mrs. Helen H. Laughery ..... Rocky Mount, NC
Mr. Jason R. Parker ..... Hickory, NC
Mr. James M. Patterson ..... Transylvania, NC
Mr. Gary H. Pendleton ..... Raleigh, NC
Mr. D. Wayne Peterson ..... Tarboro, NC
The Honorable Dwight W. Quinn ..... Kannapolis, NC
Dr. C. Lorenzo Shoffner ..... Weldon, NC
Mr. William F. Simpson ..... Reidsville, NC
Mr. James J. Woody, Jr. ..... Burlington, NC

LOCAL BOARD OF TRUSTEES

Dr. Mary S. Bell, Route 1, Box 64, Currie, NC 28435
Mr. Donald P. Blake, Chairman, 3029 Market Street, Wilmington, NC 28403
Dr. J. Marshall Crews, 334 Rill Road, Wilmington, NC 28403
Mr. Robert L. Henry, 155 North Front Street, Wilmington, NC 28401
Mrs. Mary Elizabeth Hood, 5014 College Drive, Wilmington, NC 28403
Mrs. Twila M. Jones, 426 Creekview Drive East, Hampstead, NC 28443
Mrs. B. Constance O'Dell, 4 Castlewood Drive, Wilmington, NC 28403
Mrs. Barbara S. Schwartz, 1920 South Churchill Drive, Wilmington, NC 28403
Mr. Fries Shaffner, 6265 Turtle Hall Drive, Wilmington, NC 28409
Mr. William C. Taylor, 125 Partridge Road, Wilmington, NC 28403
Dr. James Earl Vann, 808 Inlet View Drive, Wilmington, NC 28403
Mr. Franklin E. Williams, Sr., Route 3, Box 286A, Wilmington, NC 28403
President, Student Government Association, Cape Fear Community College

GENERAL INFORMATION

HISTORY

The College was established as the Wilmington Industrial Education Center in 1959 under the direction of the late George H. West. It was raised to technical institute status on July, 1, 1964, and renamed Cape Fear Technical Institute. To more clearly reflect the role and mission of the school, the Board of Trustees recommended that the school again change its name. The New Hanover County Commissioners concurred with the Board, and on January 1, 1988, the school officially became Cape Fear Community College (CFCC).

CFCC is one of fifty-eight such institutions operated by the State under the direction of the State Board of Community Colleges and administered by a local Board of Trustees. The System was authorized by the North Carolina General Assembly, Chapter 115D (originally 115A) of the General Statutes.

The College was one of the original industrial education centers and was operated from 1959 until 1963 by the New Hanover Board of Education. Following a favorable vote of the citizens of the County on a $575,000 bond issue to provide a technical institute facility, and a $0.02 tax levy for its support, $500,000 in matching funds from the 1963 Vocational Education Act Appropriation was authorized to be applied toward facility construction.

The College continued to operate in County owned buildings until new facilities were completed in the summer of 1967. These facilities included a four story main building, a separate automotive shop, and a pier and docking facility for the school's training vessels.

In the General Election of 1972 the citizens of New Hanover County approved another bond issue for $3,676,000 for the expansion of the College's facilities. This resulted in a modern seven story building that provided valuable additional classrooms, shops, and office space, with one floor devoted to the library.

In 1982 the New Hanover County Commissioners responded favorably to a request made by the Board of Trustees to purchase and renovate a temporary facility to house second year electronic and instrumentation technologies curricula. The building, located near the main campus, was renovated to meet the needs of the two curricula at a total cost to the County of $300,000.

In 1986 and again in 1988 the State Legislature appropriated $300,000 for the construction of a satellite facility in Pender County. With the Pender County Commissioners donating 11 acres of land, $200,000, and an additional $75,000 for landscaping, to that already appropriated by the Legislature, a 15,000 square foot building was opened at the Pender County Campus in Burgaw in June 1990.

The New Hanover County commissioners approved funds in 1989 to renovate one of its buildings to house classrooms, laboratory, and office space for the new Associate Degree in Nursing program, which accepted its first class in the fall of 1989.

The number of people served annually by the College has risen from approximately 750 during its early years of operation to more than 19,000 in recent years.

In 1969 the College was granted status as a Special Purpose Institute by the Southern Association of Colleges and Schools. The following year the Southern Association's Commission on Colleges granted membership to the College contingent upon successfully completing a self-study within the next five years. This was accomplished and at the Association's Annual Meeting in 1975, the College was granted membership status.

PURPOSE

Cape Fear Community College is comprehensive in its purpose and in its plan to meet the needs of the adults in the geographical area which it serves. The school strives to live up to "open door" admissions by providing opportunities at all levels of capability. The College encourages students to further develop their abilities, maintain positive attitudes toward the work place, and utilize what they have learned to enhance the development of their communities. To achieve these worthwhile goals, Cape Fear Community College is committed to the following objectives:

a. To provide an effective teaching and learning environment conducive to students achieving their maximum potential;
b. To provide guidance and counseling services for academic and career choices and for personal growth;
c. To provide vocational and technical programs and general education courses that will prepare adults for employment in specialized fields;
d. To provide courses at the elementary and secondary level for adults who wish to further their education;
e. To provide courses and programs for adults who wish to improve their economic, social, and/or cultural needs;

f. To provide developmental courses that will improve reading and computational skills necessary for capable adults to succeed in educational programs;
g. To provide programs to serve new and existing businesses and industries by training and upgrading employees' skills;
h. To provide programs to serve the community by training personnel for public service;
i. To continually study and revise existing programs and implement new programs and/or curricula which will serve the changing needs of the College's geographical area;
j. To provide lifelong learning experiences for adults.

LOCATION

Cape Fear Community College is conveniently located in the heart of Wilmington on North Front Street. The campus extends from Front Street to the deep water channel of the Cape Fear River, and is bordered by Red Cross Street on the North and Walnut Street on the South.

The Fred J. Galehouse Building houses the administrative offices, business office, classrooms, chemical and criminalistics laboratories, and part of the shop areas. The M.J. McLeod Building houses the student affairs office, library, laboratories, classrooms, cafeteria, and the student lounge area. Two additional shop buildings (the Richard L. Burnett and the William T. Emmart) are located at the water's edge, and a pier extends out to the deep-water channel to provide mooring for the school's training vessels. The buildings are of all-masonry construction, and designed especially for trade and technical programs. All classrooms and offices are air-conditioned for year-round comfort.

The Wilmington area has abundant recreational facilities that include beaches, salt-water and fresh-water fishing, good hunting area, year-round golf courses, and tennis courts.

SHOPS & EQUIPMENT

The shops and laboratory areas were carefully planned to provide large, well-ventilated, and industry-type training facilities.

Equipment for all shops, laboratories, test areas, drafting rooms, and for the training ships was selected to conform with the current tools and devices of industry. Students will find that ample opportunity is provided in all trade and technical curricula for skill-building practice in using modern, industrial tools and machines. Classrooms for study of the academic related subjects are conveniently located; a well-stocked technical library is available both day and night.

AREAS OF STUDY

Curricula which the College is presently authorized to offer include the following:

Technical Curricula:
(See Technical section (Green) of catalog for descriptions.)

- Accounting
- Administrative Office Technology
- Associate Degree Nursing
- Basic Law Enforcement Training (Certificate Program)
- Business Administration
- Chemical Technology
- Computer Engineering Technology
- Criminal Justice - Protective Service Technology
- Electronics Engineering Technology
- General Occupational Technology
- General Office
- Instrumentation Technology
- Marine Technology
- Mechanical Drafting and Design Technology
- Military Science Technology
- Paralegal Technology

Students graduating from these programs are awarded the **Associate in Applied Science Degree.**

General Education
Students who graduate from the General Education Curriculum are awarded the **Associate in General Education.**

Vocational Curricula:
(See trade section (Yellow) of catalog for descriptions.)

- Air Conditioning, Heating and Refrigeration
- Automotive Mechanics
- Boatbuilding
- Child Care Worker
- Industrial Electricity
- Industrial Mechanics
- Light Construction
- Machinist
- Marine and Diesel Mechanics
- Practical Nursing
- Welding

A **diploma** is earned by graduates of these vocational programs.

ADMISSIONS CRITERIA AND INFORMATION

Introduction

CFCC follows the "Open Door" policy which provides for the admission of any North Carolina citizen who has reached the age of 18 or whose high school class has graduated or who has attained the GED certificate.*

While a high school education or its equivalent* is desirable for admission to the full-time training programs, some exceptions are made for individuals whose age and maturity make success in a diploma program likely. See individual course descriptions in this catalog for specific admission requirements, prerequisites, etc., for each course.

Previous Education

Each applicant shall request his or her high school to submit a transcript showing grades earned. Those who are high school seniors should have their school submit a transcript showing work through the first semester of the senior year as soon as possible after the semester has ended and a supplementary transcript showing graduation at the close of school.

Applicants who have the high school equivalency certificate (GED) should submit a copy of the certificate, but should also ask their high school to send a transcript of all work done at the school.

Transcripts of previous education in colleges, technical institutes, etc. should also be submitted to the school. All transcripts must come directly from the school to the College and not from the applicants themselves.

Placement Test

Students are required to take a placement test prior to entrance. Qualified counselors at the school use the test results in helping individuals decide which course of study to follow. There is no charge for the test, nor for the counseling service.

Personal Interview

The personal interview is beneficial to both the applicant and to school officials in that it affords an opportunity to "get acquainted." The applicant has an opportunity to ask questions about the school and its programs while school officials make an effort to evaluate the applicant's interest in and capability to pursue the program of study for which they applied.

*See page 159 in Extended Services Section of this catalog for details about the high school equivalency certificate.

Medical Examination
After being accepted for admission, students in certain programs of study will be required to submit a completed medical form.

Other
In addition to the general admission requirements, it may also be required that certain students with academic deficiencies take additional course work to strengthen their skills.

Certain curricula may have special requirements in addition to the above stated criteria.

Admissions Checklist
The applicant must complete the following procedures:

1. Submit completed application.
2. Have transcripts of all previous education mailed to the College, which includes high school and/or GED certification.
3. Take placement test.
4. Come to the school for a personal interview and do additional testing when necessary.
5. Submit medical form (after being accepted).

Admission of Nursing Students
Students seeking admission to nursing programs must comply with additional requirements. (Note: When preparing the application form, the desired program must show either ADN or LPN. Students may not apply for both. Applications will be made available, within the Office of Admissions, from October 1st through January 31st. The selection process begins April 1st.).

The additional requirements for the ADN and LPN programs are:

1. Nursing Admissions Test
   The regular College placement test is used as criteria for admission into the above programs. Applicants must meet the minimum test scores as prescribed for the nursing program in order to be considered further for the program. Dates of the test for nursing students are made available by the Admissions Office, as well as minimum placement test scores. The placement test may not be repeated within a six-month period for ADN applicants or within a three month period for LPN applicants.
2. Transcripts
   Official records of high school graduation or equivalent and any post-secondary transcripts will be required.

3. Personal References
   Three personal reference forms must be furnished after qualifying on the entrance exams. Forms are made available when applicants qualify on the admission test.
4. Interview with Nursing Admissions Committee
5. Physical Examination
   (Submission of a physical exam results as determined by a physician, physician assistant, or nurse practitioner). The physical must include a TB test (chest X-ray if a positive reaction), immunization record, VDRL, urinalysis, and rubella titer or evidence of rubella vaccination. Students may receive conditional acceptance prior to completion of the physical exam. The student must submit a physical exam prior to final acceptance.
6. Advanced Standing
   Students seeking admission into the Associate Degree Nursing Program as LPN's with advanced standing must, in addition to meeting requirements 1 through 5 above, have a current license in Practical Nursing in the State of North Carolina. Students must have successfully completed BIO 121 Anatomy and Physiology I, PSY 105 Introduction to Psychology, BIO 122 Anatomy and Physiology II, SOC 104 Sociology, PSY 110 Growth and Development, BIO 123 Microbiology, and NUR 199 Nursing Transition. A grade C or better must be maintained in each of the above courses. NUR 199 must be taken within one academic year prior to acceptance into the program.

Admission of Out-of-State Students

Out-of-state students are admitted under the same admission standards as residents of North Carolina. Residency classification for out-of-state students will be determined by the laws of the State of North Carolina. At the time of admission, the Director of Admissions will determine the residency status of the applicant based on the information supplied on the application and any other data deemed appropriate by the Director of Admissions. If the applicant is not satisfied with the residency classification assigned by the Director of Admissions, an appropriate form for appeal is available in the Office of Student Affairs, but must be filed within ten (10) days following the first notification of residency status. Applicants wishing additional information about the laws of North Carolina governing residency classification for students should make inquiry to the Office of Student Affairs, where copies of the law are maintained.

Admission of Non-Immigrant Alien Students

The school is authorized under Federal law to admit non-immigrant alien students.

ADMITTED STUDENT INFORMATION

Transfer Within the College
Students who desire to change from one program to another must submit their request to the Admissions Office. Such requests will be carefully reviewed and students will be notified by the Admissions Office of its decision. In cases where students are permitted to change programs, prior satisfactory credits earned may be applied to the requirements for the new program where applicable.

Proficiency Examination
Credit by proficiency examination may be given for a course. Eligibility to take a proficiency examination may be based on high achievement in secondary schools, post secondary schools, or experience. Arrangements for examination should be made with the major subject instructor, Division Head, and Dean of Student Affairs.

Freshman Orientation
Freshman Orientation is provided for full time students entering for the first time. Orientation informs the student about the academic and social policies of the College and acquaints him or her with the library and other facilities. Upperclassmen assist in orientation and help answer questions about the College's policies and procedures.

Registration
Students who have been admitted, and who have paid their tuition deposit (see page 18 for information on this deposit) will register on the dates set by the school for this purpose. Students will obtain their class schedules and pay their fees at that time.

Quarter System
The school year is divided into four quarters of 55 school days. Credits earned are in quarter hours. See course description section for number of credits required for graduation in each program.

Course Load
A student who carries a minimum of 12 quarter hours is considered a full time student. The normal load is 14-18 quarter hours. A student may carry a maximum of 24 quarter hours credit. Any exception to this rule must be approved by the Dean of Student Affairs.

Auditing Courses
Students who wish to audit courses must register for the audit by following the

regular registration procedures and stating in writing on a Registration Card or Drop/Add form which course(s) they are auditing. Auditing students receive no credit and are not required to participate in class discussion or take tests. The fees for audit courses are the same as those taken for credit. Changes from audit to credit or credit to audit may only be done during registration periods.

Drop/Add/Late Registration
Students will be allowed to drop or add a class or register during the first five (5) days of each quarter.

TUITION, FEES, AND REFUNDS

Tuition is established by the North Carolina State Legislature and is subject to change without prior notification. Currently tuition is charged at the following rates for all curriculum courses:

Tuition

North Carolina Students:

Full Time ..... $90.00 per quarter
Part Time ..... $7.50 per quarter hour credit

Out-of-State Students:

Full Time ..... $840.00 per quarter
Part Time ..... $70.00 per quarter hour credit

Personnel in the Armed Services
Any member of the armed services who qualifies for admission shall be charged the out-of-state rate but will pay the in-state rate with the difference being waived.

Any dependent relative of a member of the armed services who is abiding in this State incident to active military duty while sharing the abode of that member shall be eligible to be charged the in-state tuition rate.

Other Costs
Books and small tools are purchased by students as they are needed. The College attempts to keep the cost of books and tools at a minimum.

A $5.00 activity fee is charged at the beginning of Fall, Winter, and Spring quarters.

All students who work in laboratories or shops are required to have accident insurance; this insurance may be purchased annually or quarterly at the time of

registration. All insurance expires on August 31 of each school year.

Parking permits may be purchased for $8.00 at the time of the student's initial registration. Parking permits are valid through August of the current school year.

Payments
When an applicant is officially admitted to a course of study, he or she is required to make a $15.00 tuition deposit. This deposit is nonrefundable except in cases where the school is unable to admit the person or unable to offer the course for which applied.

All tuition and fee charges are due and payable on the day of registration. Any deferred payments or exceptions to rules on financial affairs must be approved by the Dean of Fiscal Affairs.

The accident insurance is purchased on registration day of the first quarter of attendance.

No student will be permitted to graduate, nor will a transcript be issued until all financial obligations to the school are satisfied.

Refunds
A tuition refund for students shall not be made unless the student is, in the judgment of the College, compelled to withdraw for unavoidable reasons. In such cases, two-thirds (2/3) of the student's tuition may be refunded if the student withdraws within ten (10) calendar days after the first day of classes as published in the school calendar and requests such refund in writing. Tuition refunds will not be considered after that time.

(Tuition refunds will not be considered for tuitions of five dollars ($5.00) or less; if a course or curriculum fails to materialize, all the student's tuition shall be refunded.)

Where a student, having paid the required tuition, withdraws from the college before the end of the quarter and the reasons for the withdrawal are found excusable by the appropriate school official, the student may be allowed credit for unrefunded tuition. To qualify for such tuition credit, the student must apply in writing for re-admission during any of the next four calendar quarters.

WITHDRAWAL

Students desiring to withdraw from school must contact the Admissions Office to obtain the necessary forms and procedures for official withdrawal. A student who fails to withdraw officially will receive a grade of "NC" (No Credit).

Students who withdraw from a course(s) within the first 21 calendar days from the date classes began will receive a grade of "W" (Withdraw) which will not be computed in the GPA (Grade Point Average). Students who withdraw from a course(s) after this period must receive a grade of "WP" (Withdraw Passing) or "WF" (Withdraw Failing). WP's will not be computed in the GPA, whereas, WF's will be computed as a failing grade.

Students who withdraw after the eighth week of classes must obtain permission in writing from the Dean of Student Affairs and the instructor, unless the student is completely withdrawing from school.

STUDENT FINANCIAL AID

It is required that each applicant for financial assistance complete and submit the Financial Aid Form to the appropriate College Scholarship Service Office. The Financial Aid Form can be obtained by writing the Office of Financial Aid.

It is also required that each aid applicant complete and submit the College Application for Financial Aid to the Office of Financial Aid .

Financial Aid recipients are required to maintain satisfactory progress toward completing a degree, diploma, or certificate. Students will be given a copy of the policy which governs "satisfactory progress" at the time the financial aid award is made. Questions regarding financial aid should always be made to the Director of Financial Aid.

In addition to the Financial Aid programs listed below, there are numerous scholarships and a limited number of loans available to eligible students.

Grants

Pell Grants (Title IV)-formerly known as BEOG—This award is granted through the Federal Government for students in need of financial assistance. It does not have to be repaid. Depending upon the need factor and cost of education, Pell Grant awards range from $100 to $2300 yearly. You must apply each year.

Supplemental Educational Opportunity Grants (SEOG) (Title IV)—The SEOG is

awarded by the College to students who have demonstrated financial need. It does not have to be repaid. The grant ranges from a minimum of $100 to a maximum of $4000 yearly, depending upon need and availability of funds. In order to be considered, a Financial Aid form must be submitted to College Scholarship Service for needs analysis. A College application for aid must also be filed in the Financial Aid Office.

North Carolina Student Incentive Grant Program (NCSIG)—Funds are provided by the North Carolina Education Assistance Authority to help needy students obtain their educational goal. Eligibility requirements are as follows: (1) must be a legal resident of North Carolina, (2) demonstrate substantial financial need, (3) be enrolled as a full time student, and (4) maintain satisfactory progress.

Other Financial Assistance

College Work Study (Title IV)—The College participates in the College Work Study Program, which provides the student an opportunity to earn a portion of their college expenses by working while in school during the regular academic year. Those interested in this program should contact the Financial Aid Office located in the Division of Student Affairs.

Vocational Rehabilitation—Vocational Rehabilitation is a program operated through the Division of Vocational Rehabilitation in cooperation with the North Carolina Department of Administration. The Division finances such services as are necessary to enable a physically or mentally employment-handicapped person to become self supporting. Financial assistance is available for training at Cape Fear Community College for eligible handicapped persons. If a prospective student has a physical disability or is limited in his/her activity because of a disability, he/she should contact the nearest Division of Vocational Rehabilitation Office. The Division Office for North Carolina is located at 709 Market Street, Wilmington, NC.

Veterans Educational Benefits

This program assists veterans as well as widows and/or children of eligible deceased or disabled veterans.

The educational benefits available under the G.I. Bill are administered by the Veterans Administration which also is the final authority for determining eligibility. These benefits are not only available to eligible veterans, but also the spouses and children of certain categories of living and deceased veterans, and to certain active duty military personnel, reservists and members of the National Guards.

Prospective students who believe they may be eligible for veteran benefits should contact the Veterans Affairs Office at the school for the address of the nearest Veterans Administration Office.

For detailed information about Veterans Educational Benefits, contact the campus Veterans Affairs Office in S-201, M.J. McLeod Building, or the nearest Veterans Administration field office.

ATTENDANCE AND TARDINESS

The nature of the programs for students is such that it is necessary that students be in regular attendance to obtain maximum benefit from their courses. Students should aspire to a perfect attendance record at all times.

Standards of attendance must be established to provide student accountability required by various agencies associated with CFCC and to encourage student participation for the greatest possible benefit to the student.

In addition to any other requirements, students must be in attendance at least 80% of the clock-hours of a course to receive credit. Those who do not meet minimum attendance requirements will be given the grade of "NC" (No Credit), which will be computed in the student's grade point average as a failing grade.

Special note to Marine Technology students: Students in the Marine Technology curriculum are at times involved in cruises on the ship that might take place during a holiday or quarter break during which time students are normally off. When such occurs, students must participate in the cruise.

GRADING

Grading is done by the traditional method of "A" through "D," along with negative categories such as "F" (Failure), "WF" (Withdraw Failing) and "NC" (No Credit, Irregular Withdrawal). A full explanation of grading and grade point averaging is addressed in the **STUDENT HANDBOOK** which is given to all new students. Interested prospective students can obtain a copy of the "Handbook" by writing the Dean of Student Affairs.

GRADE	SIGNIFICANCE	QUALITY POINTS PER QUARTER HOUR
A	Superior	4
B	Good	3
C	Average	2
D	Poor	1
F	Failure	0
I	Incomplete	0
AU	Audit	0
W	Withdraw	0
WP	Withdraw Passing	0
WF	Withdraw Failing	0
NC	No Credit	0
S*	Satisfactory	0
U*	Unsatisfactory	0
CR	Credit by Exam	0
CT	Credit by Transfer	0
NS	Never Attended	0

*Grades assigned to developmental courses which do not count toward graduation requirements

Incomplete Grades
Incomplete will be given only when circumstances justify additional time to complete the course. An incomplete must be removed within six weeks following the first day of the next quarter it was received. Grades not made up within six weeks will be recorded as an "F."

Grade Appeal Policy
The College grade appeal policy can be found in the **STUDENT HANDBOOK**.

Quarter Hour Credit
Each course listed is followed by a notation on the number of quarter hours it carries. Normally, the number of quarter hours earned is based on the number of class, laboratory or shop hours spent under the supervisor or the course instructor per week for the quarter. Usually one quarter hour credit is given for each lecture hour of class per week, for each two hours of laboratory work per week, or for each three hours of shop or manipulative laboratory per week. (A class hour is usually defined as 50 minutes of instruction.) Exceptions may be made in cases where specific classification is not feasible.

REQUIREMENTS FOR GRADUATION

To receive the Associate in Applied Science Degree, the Associate in General Education Degree, or a Diploma, a student must maintain satisfactory grades in all laboratory and class subjects and an overall "C" average or a grade point average of at least 2.00. Degree Recipients must earn a minimum of 32 quarter hours credit at Cape Fear Community College. Diploma recipients must earn a minimum of 15 quarter hours credit at Cape Fear Community College. (See **STUDENT HANDBOOK** for full explanation of Grade Point Average.)

SCHOLASTIC HONORS

President's List
Full time (12 or more quarter hours credit) students who have earned a grade point average of 4.00 will be placed on the President's List.

Dean's List
Full time (12 or more quarter hours credit) students who have earned a grade point average of 3.50 with no grade lower than "C" will be placed on the Dean's List.

Graduation with High Honors
Graduating students who have achieved an A average, defined as a cumulative quality point average of 4.0, are recognized each year at graduation exercises as having graduated with high honors.

Graduation with Departmental Honors
Those members of the graduating class who have demonstrated outstanding leadership, attitude, and ability will be graduated with departmental honors. Since these are departmental awards, recipients are selected by lead instructors in cooperation with appropriate faculty members.

ACADEMIC REQUIREMENTS

Each student is expected to make satisfactory progress toward obtaining a degree or diploma. At the end of each quarter, a student's Grade Point Average (GPA) is examined. The minimum accumulative GPA for remaining in good standing is as follows:

Attempted Credit Hours	Diploma	Degree
1 - 23	1.25	1.25
24 - 40	1.40	1.40
41 - 59	1.70	1.55
60 - 80	2.00	1.75
81 - 100		1.90
101 -		2.00

PROBATION AND SUSPENSION

Academic

A student who falls below the accumulative GPA requirements will be placed on academic probation for the following quarter. A student placed on academic probation will be notified in writing by the Admissions Office. A student on academic probation should schedule a conference with a counselor after he or she is notified about his or her probationary status. Any student on probation who fails to make satisfactory improvement during the following quarter may be suspended or advised to enter a more appropriate program. Upon request, a student suspended for academic reasons may be readmitted if, after a conference with a counselor, it is determined that the student would benefit from continued academic pursuit. Subsequent suspensions could result in the student not being readmitted again.

Conduct

Any student whose conduct becomes unsatisfactory may be placed on conduct probation; however, a student is subject to immediate suspension if deemed necessary by the Dean of Student Affairs. Any misconduct after a person is placed on conduct probation will result in prompt suspension.

Special Note to Persons Attending Under the G.I. Bill

At any time a student, attending school under the G.I. Bill, fails to meet the required accumulative GPA, that student will be placed on academic probation for a period of one quarter. If, at the end of the probationary period, the accumulative GPA is below that required by the College, the Veterans Administration will be notified that the student has been "de-certified" for G.I. Bill payment purposes. If such a student continues to attend CFCC, the veterans administration will be notified when the student has achieved an acceptable accumulative GPA. Recertification by the V.A. for pay purposes will be retroactive to the starting date of the quarter in which satisfactory progress resumed.

RIGHT OF APPEAL

Any student who is dismissed from school for academic or disciplinary reasons may have his or her case reviewed by requesting such through the Dean of Student Affairs, who, in turn, will bring his or her case before the Admissions and Student Affairs Advisory Committee. The appeal may be carried to the Board of Trustees at the student's request.

TRANSCRIPT OF RECORDS

Upon request of the student, a transcript of credits earned at Cape Fear Community College only will be sent to other schools and/or industry. There is no charge for this service. Requests should be made in writing to the Registrar's Office.

COUNSELING SERVICES

Qualified counselors are available to assist students in selecting an appropriate course of study, to provide occupational and educational information, and to discuss scholastic or personal problems which may arise.

CAREER PLANNING, PLACEMENT AND TESTING

The major function of the Career Planning, Placement, and Testing Office is to provide career counseling, job placement, and testing to students and graduates.

Career Planning

The Career Planning services made available through the Career Planning, Placement, and Testing Office are: special help in the development of job search techniques; information about present and future employment trends; statistical information about graduates' employment; business/industry literature and directories; and administration and interpretation of CHOICES, a computerized career decision-making program.

Job Placement

The job placement function of the office, with the help and support of faculty and staff, is to assist students and graduates in securing job positions in their chosen fields. To maintain information about current job openings, frequent contact is made with local businesses and industries. Also, the Career Planning, Placement, and Testing Office coordinates on-campus company recruitment of students and CFCC alumni throughout the year.

Testing

The purpose of CFCC admissions placement is to provide the school's admissions counselors with information about applicants' reading, writing, and math skills. These scores, along with other admissions information, enable counselors to assist students in deciding on courses and/or programs of study. CFCC placement tests are given frequently during the year. Times for testing vary (morning, afternoon, evening) in order to meet the needs of students.

The GED test (General Educational Development) is also available through the school's testing office. Individuals who have not completed high school can obtain

their high school equivalency by taking the GED. For more information, individuals should contact the school's testing office.

STUDENT ACTIVITIES

Extra-curricular activities are a very important part of the total educational program. The school encourages the development of additional activities. Accordingly, CFCC has designed procedures for establishing clubs that are officially sanctioned by the school. These procedures may be found in the **STUDENT HANDBOOK**.

Intercollegiate activities depend on sport facilities available and student interest. From year to year, intercollegiate activities may include basketball, softball, tennis, soccer, and volleyball. Intramural activities offered by the College may include volleyball, chess, table tennis, and billiards.

The student government is a very active organization at this school. The voice of the student body paves the way for good lines of communication between the students and the administration.

The student newspaper, student handbook, and school annual are among the publications done by the students. Students interested in any aspect of such publications are encouraged to participate.

Many students donate their time and energies to projects under the guidance of instructors and community leaders by participating in some type of service club.

The school is a member of the Eastern Carolina Community College Athletic Conference which includes several other community colleges. There is presently an effort to form a state wide Community College Athletic Conference.

HEALTH SERVICES

The following health services are provided through the Office of Student Affairs: (1) First aid and emergency care is available on campus. (2) Referrals for illness and injury that cannot be taken care of by individuals concerned are made to community health facilities. (3) A drug abuse prevention program is sponsored by the school which includes distribution of available literature, providing audio visual materials, making available through the Library a limited number of current books on the subject, and a counseling service that refers students to local health professionals trained in the area of substance abuse. In case of illness or injury requiring transportation, the Student Affairs Office should be contacted immediately.

THE LIBRARY

The Library is located on the sixth floor of the M.J. McLeod Building. It currently has some 27,000 books in the open-stack collection and subscribes to more than 400 magazines and newspapers. Other materials available for patron use include 7,000 rolls of microfilms of back issues of magazines and genealogical materials; approximately 2,000 out-of-print books in microfiche format; and several hundred maps and charts frequently utilized in the instructional programs. A collection of phonograph recordings is available for patron listening. The North Carolina Employment Security Commission Job Placement Service listing of current jobs in North Carolina is received by the library and is available for patron use in the microfiche section. Interlibrary loan service is available for all patrons. Typewriters, calculators, photocopy facilities, microfiche reader/printer are also available for patron use.

While the activities and materials collections of the Library, for the most part, are related to the programs of instruction offered and exist primarily for the students, faculty, and staff of the College, all adult residents of the area, particularly industrial employees, may utilize the Library.

THE AUDIO VISUAL SERVICE CENTER

The CFCC Audio Visual Service Center (AVSC) is located on the fifth floor, Room S-513, of the M.J. McLeod Building. Currently the college maintains more than 2,975 units of instructional media and over 615 items of audiovisual equipment which are available for use by the faculty.

The major purpose of the AVSC is to support the educational efforts of the college. A Faculty Self-Help Center is available for media production by instructors. Students may request assistance through their classroom instructor.

SEXUAL HARASSMENT

Discriminatory personal conduct, including sexual harassment toward any member of the College, is a violation of both State and Federal law and school policy and cannot be tolerated in the College community.

All members of this school community are expected and instructed to conduct themselves in such a way as to contribute to an atmosphere free of sexual harassment. Sexual harassment of any employee or student by any other employee or student is a violation of the policy of this school and will not be tolerated.

Requests for sexual favors and other unwelcomed verbal or physical conduct of a

sexual nature by any employee or student constitutes sexual harassment when:

- submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, academic or student status, or
- submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting that individual, or
- such conduct has the purpose or effect of interfering with an individual's performance or creating an intimidating, hostile, or offensive environment in the work place or the classroom.

Any student who believes that he or she has been subjected to sexual harassment in violation of this policy should make a confidential complaint to one of the Student Affairs counselors. If this is not feasible, the student may take the complaint to the Dean of Student Affairs.

GRIEVANCE PROCEDURE

If any student or prospective student feels that he or she has been discriminated against or denied service on the basis of race, color, national origin, religion, or sex, he or she should report such to the Dean of Instruction.

If any student or prospective student feels that he or she has been discriminated against or denied services on the basis of handicap, he or she should report such to the Dean of Instruction, who is the Section 504 Coordinator.

DRESS

Where special dress or safety devices are required by the College, Department of Community Colleges regulations, or public law, the student will be expected to conform. Students are expected to maintain good personal grooming consistent with the ordinary requirements of industry.

CONDUCT

It is expected that at all times the student will conduct himself/herself as a responsible adult. Participation in any activity which, in the opinion of the administration, disrupts the educational process or functioning of the college may result in disciplinary action. Specific violations of conduct include, but are not limited to the following:

a. destruction of school property
b. stealing
c. cheating

d. gambling
e. use of profane language
f. engaging in personal combat
g. possess or carry, whether openly or concealed, any weapon on campus; the only exception to this directive is in the case where training or job requirements of the student or employee requires that such be carried
h. possession and/or use of alcoholic beverages
i. possession and/or use of any drug as defined under the North Carolina Controlled Substance Act, G.S. 89-90 through G.S. 90-94.

The State of North Carolina has issued procedures to be followed in cases of disruptive conduct. Therefore, such prescribed procedures will be followed at all times.

Violation of these rules of conduct will not be tolerated in or on any part of the campus, its satellites, equipment it operates, or wherever its employees or students are required to be while performing their duties as students or employees. Any violation of these standards of behavior may result in dismissal from the College.

Classroom rules will be designated by instructors or supervisors and must be followed by all.

WEAPONS ON CAMPUS

It is unlawful for any person to possess or carry, openly or concealed, any weapon on campus. The only exception made to this directive is in the case where training or job requirements of the student or employee requires that such a weapon be carried.

DEVELOPMENTAL STUDIES

It is not uncommon for a student to enter college who, for some reason, is deficient in the basic skills of reading, English, and/or mathematics. Recognizing this and being committed to making every opportunity available for students to help ensure their success, the school established a Developmental Studies program. This program is designed to help students gain the necessary skills in reading, English, and/or mathematics that will allow them to enter the curriculum program of their original choice. Successfully passing these developmental courses will help ensure that the student has the basic skills in reading, English, and/or mathematics to function at the required entry level. These courses are required for those students who have been identified by the Admissions Office as needing enhancement in reading, English or mathematics, or all.

Developmental courses earn credit; however, such credit does not apply toward the required hours for receiving a degree or certificate. Developmental courses are graded as "S," Satisfactory, or "U," Unsatisfactory. A satisfactory "S" grade is required on these course offerings before an individual will be allowed to enter the math and/or English sequence for which the developmental course is required (See Technical or Trade Course Descriptions for details.)

ALUMNI

The Alumni Association was organized in order to strengthen old and create new bonds of friendship and to promote interest and support for the continued growth of the College. Membership is open to anyone who has attended the school and has completed one full quarter of curriculum study. Associate memberships are available to those who have participated in a program of continuing education and to non-students who share a sincere interest in the future of the College. Efforts are made through public news media to inform all members of current Alumni activities, including business meetings, fund-raising, and social events.

TECHNICAL PROGRAMS

Technicians are among the fastest growing occupational groups in the United States. In recent years, the needs of an expanding and increasingly technical economy have greatly intensified the demand not only for engineers and scientists, but also for the technical workers who assist them. Technicians are those workers whose jobs require both knowledge and use of scientific and mathematical theory, specialized education or training in some aspect of technology or science, and work, usually, with scientists and engineers. Some jobs held by these technicians are supervisory and require both technical knowledge and the ability to supervise people.

In carrying out their assignment, engineering and science technicians frequently use complex electronic and mechanical instruments, experimental laboratory apparatus, and drafting instruments. These workers engage in virtually every aspect of engineering and scientific work. In research, development, and design work they conduct experiments or tests; set up, calibrate, and operate instruments; and make calculations. They also assist scientists and engineers in developing experimental equipment and models by making drawings and sketches and frequently do some design work.

Technicians also work in jobs related to production. They may aid in the various phases of production operations, such as working out specifications for materials and methods of manufacturing, devising tests to insure quality control of products, or making time-and-motion studies (timing and analyzing the worker's movements) designed to improve the efficiency of a particular operation. They may also perform liaison work between engineering and production or other departments.

Cape Fear Community College provides training in a number of areas which require training beyond the high school, but do not require four years of college preparation. Most of the technical programs are six quarters in length and are geared to train a person in specific technical areas. Students spend twenty to thirty hours per week in classroom and laboratory work; additional time will be needed for outside assignments.

The Associate in Applied Science degree is awarded to students who complete a technical program. To be eligible for the degree, a student must maintain satisfactory grades in all laboratory and class subjects and an overall grade point average of 2.00.

Credit hours granted in the various technical programs are not transferrable to other institutions except as an institution may determine that a particular course and credits are applicable to a curriculum offered by that school.

ELECTRONIC CURRICULUMS AT CAPE FEAR COMMUNITY COLLEGE

Cape Fear Community College offers three curriculum programs in electronics: Computer Engineering Technology, Electronics Engineering Technology, and Instrumentation Technology. These three programs share a common core group of courses which, for a full-time student, are normally taken by the student during the first four quarters. During the fifth through the seventh quarters the student takes courses in the specialization of his or her choice.

Listed below is the core group of courses which cover the first through the fourth quarters, followed by an abbreviated listing of the courses for the fifth through the seventh quarters of each curriculum.

In addition to the general admission requirements, at least one year of high school algebra or the equivalent is required for admission to the electronics programs.

CORE COURSES

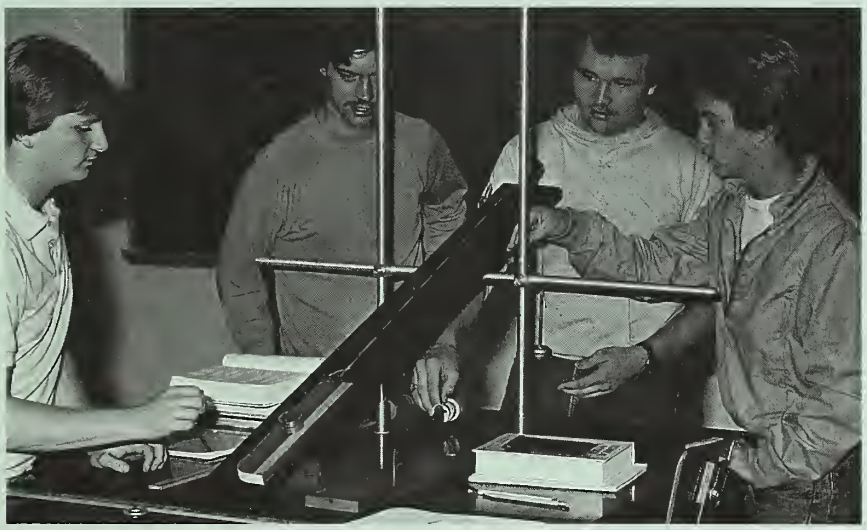
	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
ELC 107 Electricity I	3	0	6	5
ELN 102 Electronic Fabrication Techniques	0	2	0	1
ELN 106 Electronics I	2	0	6	4
ENG 101 Grammar	3	0	0	3
MAT 121 Technical Mathematics	5	0	0	5
SECOND QUARTER				
ELC 108 Electricity II	3	0	6	5
ELN 107 Electronics II	3	0	6	5
ENG 102 Composition	3	0	0	3
MAT 122 Technical Mathematics	5	0	0	5
THIRD QUARTER				
*CHM 118 Basic Chemistry	2	2	0	3
ELC 109 Electricity III	3	0	6	5
ELN 108 Electronics III	3	0	6	5
MAT 123 Technical Mathematics	5	0	0	5
PHY 101 Physics: Properties of Matter	3	2	0	4
FOURTH QUARTER				
DFT 100 Technical Drafting	1	0	3	2
ELN 109 Electronics IV	3	0	6	5
ELN 110 Introduction to Digital Electronics	3	0	6	5
ENG 103 Report Writing	3	0	0	3
*PHY 100 Introductory Physics	4	2	0	5
PHY 102 Physics: Work, Energy, and Power	3	2	0	4

*For Instrumentation Technology only.

SPECIALIZATIONS

Computer Engineering Technology	Electronics Engineering Technology	Instrumentation Technology
5th Quarter	**5th Quarter**	**5th Quarter**
EDP 201	EDP 201	ELN 224
ELN 240	ELN 202	ELN 236
ELN 241	ELN 232	ELN 241
ELN 243	ELN 236	PHY 105
ELN 250	ELN 241	PSY 217
PSY 217	PSY 217	Elective
Elective	Elective	
6th Quarter	**6th Quarter**	**6th Quarter**
EDP 210	ELN 233	ELN 225
ELN 244	ELN 238	ELN 251
ELN 245	ELN 253	PHY 104
ELN 251	ENG 204	SOC 102
ENG 204	SOC 102	
SOC 102		
7th Quarter	**7th Quarter**	**7th Quarter**
BUS 272	ELN 220	ELN 226
ELN 247	ELN 234	ELN 252
ELN 249	ELN 254	ENG 204
ELN 252	PHY 104	SOC 206
ELN 255	SOC 206	Elective
Elective	Elective	

For a general description of each of the above curricula, refer to the alphabetized listing of curricula elsewhere in this section of the catalog.



AUTHORIZED PROGRAMS

Accounting
Administrative Office Technology
Associate Degree Nursing
Basic Law Enforcement Training (Certificate Program)
Business Administration
Chemical Technology
Computer Engineering Technology
Criminal Justice - Protective Service Technology
Electronics Engineering Technology
General Education
General Occupational Technology
General Office
Instrumentation Technology
Marine Technology
Mechanical Drafting and Design Technology
Military Science Technology
Paralegal Technology

ACCOUNTING

The purpose of the Accounting curriculum is to prepare the individual to enter the accounting profession through study of accounting principles, theories and practices with related study in law, finance, management and data processing operations.

The curriculum is designed to prepare the individual for entry-level accounting position, such as junior accountant, bookkeeper, accounting clerk, cost clerk, payroll clerk, and related data processing occupations.

With experience and additional education, the individual will be able to advance to positions such as system account, cost accountant, budget accountant and property accountant.

ACCOUNTING

		HOURS PER WEEK			
		Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER					
BUS 102	Typewriting I	2	0	3	3
BUS 115	Business Law I	5	0	0	5
ECO 102	Economics I	3	0	0	3
ENG 101	Grammar	3	0	0	3
MAT 115	Mathematics of Finance	5	0	0	5
		18	0	3	19
SECOND QUARTER					
BUS 116	Business Law II	5	0	0	5
BUS 120	Accounting I	5	2	0	6
BUS 222	Word Processing	2	0	3	3
ECO 104	Economics II	3	0	0	3
ENG 102	Composition	3	0	0	3
		18	2	3	20
THIRD QUARTER					
BUS 121	Accounting II	5	2	0	6
BUS 128	Computerized Accounting - Electronic Spreadsheet	1	2	0	2
BUS 229	Taxes I	3	2	0	4
ENG 204	Oral Communication	3	0	0	3
MAT 116	Business Statistics	3	0	0	3
___ ___	Technical Elective	3	0	0	3
		18	6	0	21
FOURTH QUARTER					
BUS 122	Accounting III	5	2	0	6
BUS 230	Taxes II	3	2	0	4
EDP 250	Basic Business Programming	2	2	0	3
PSY 217	Introduction to Psychology	3	0	0	3
___ ___	Technical Elective	3	0	0	3
		16	6	0	19
FIFTH QUARTER					
BUS 123	Business Finance I	3	2	0	4
BUS 220	Intermediate Accounting I	3	2	0	4
BUS 225	Cost Accounting I	3	2	0	4
EDP 255	Data Base Management	3	2	0	4
SOC 102	Principles of Sociology	3	0	0	3
		15	8	0	19
SIXTH QUARTER					
BUS 124	Business Finance II	3	2	0	4
BUS 221	Intermediate Accounting II	3	2	0	4
BUS 226	Cost Accounting II	3	2	0	4
BUS 235	Business Management	3	2	0	4
SOC 206	American Institutions	3	0	0	3
		15	8	0	19

See pages 75 to 115 for course descriptions.

ADMINISTRATIVE OFFICE TECHNOLOGY

This curriculum prepares individuals to perform secretarial and administrative support duties in a variety of offices including those offices with computerized, automated functions.

Students in this curriculum study keyboarding and word/information processing to develop skills in the preparation of business correspondence, reports, statistical copy, manuscripts and business forms. Administrative support courses emphasize typical office tasks such as scheduling appointments, composing correspondence and performing reprographic duties. Training is also provided in analyzing and coordinating office duties and systems. Skills and knowledge are taught in the areas of electronic document storage and retrieval and computer software utilization.

Graduates of the program may be employed in offices in private business establishments involved in retailing, marketing, advertising, and manufacturing as well as offices in local, state, and federal government.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
BUS 105 Keyboarding	2	0	3	3
BUS 109 Professional Development	3	0	0	3
BUS 115 Business Law I	5	0	0	5
ENG 105 Grammar and Composition	3	2	0	4
PSY 217 Introduction to Psychology	3	0	0	3
	16	2	3	18
SECOND QUARTER				
BUS 118 Document Production	2	0	3	3
EDP 101 Computer Familiarization	2	2	0	3
ENG 106 Grammar and Composition	3	2	0	4
MAT 110 Business Mathematics	5	0	0	5
SOC 102 Principles of Sociology	3	0	0	3
	15	4	3	18
THIRD QUARTER				
BUS 116 Business Law II	5	0	0	5
BUS 120 Accounting I	5	2	0	6
BUS 222 Word Processing I	2	0	3	3
EDP 199 Database Processing I	2	2	0	3
ENG 204 Oral Communication	3	0	0	3
	17	4	3	20

FOURTH QUARTER				
BUS 121 Accounting II	5	2	0	6
BUS 130 Spreadsheet Applications I	2	2	0	3
ENG 104 Reading and Composition	3	0	0	3
SOC 206 American Institutions	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	16	4	0	18
FIFTH QUARTER				
BUS 223 Word Processing II	2	0	3	3
BUS 240 Machine Transcription I	3	2	0	4
ECO 102 Economics I	3	0	0	3
EDP 200 Database Processing II	2	2	0	3
___ ___ Technical Elective	3	0	0	3
	13	4	3	16
SIXTH QUARTER				
BUS 211 Spreadsheet Applications II	2	2	0	3
BUS 219 Office Supervision	3	0	0	3
BUS 241 Machine Transcription II - Legal	1	2	0	2
or				
BUS 217 Speedwriting	(1)	(2)	(0)	(2)
ECO 104 Economics II	3	0	0	3
ENG 103 Report Writing	3	0	0	3
	12	4	0	14
SEVENTH QUARTER				
BUS 213 Office Procedures	1	2	0	2
BUS 229 Taxes I	3	2	0	4
BUS 242 Machine Transcription III - Medical	1	2	0	2
or				
BUS 217 Speedwriting	(1)	(2)	(0)	(2)
EDP 208 Desktop Publishing	1	2	0	2
___ ___ Major Elective	3	0	0	3
	9	8	0	13
MAJOR ELECTIVES				
BUS 230 Taxes II	3	2	0	4
DMK 163 Fundamentals of Real Estate	6	0	0	6
DMK 164 Real Estate	3	0	0	3
DMK 209 Real Estate Finance	3	0	0	3
DMK 271 Real Estate Brokerage Operations	3	0	0	3
DMK 292 Real Estate Appraisal	3	0	0	3
DMK 296 Property Management	3	0	0	3
INS 215 Life and Health Insurance	4	0	0	4
INS 216 Property and Casualty Insurance	4	0	0	4

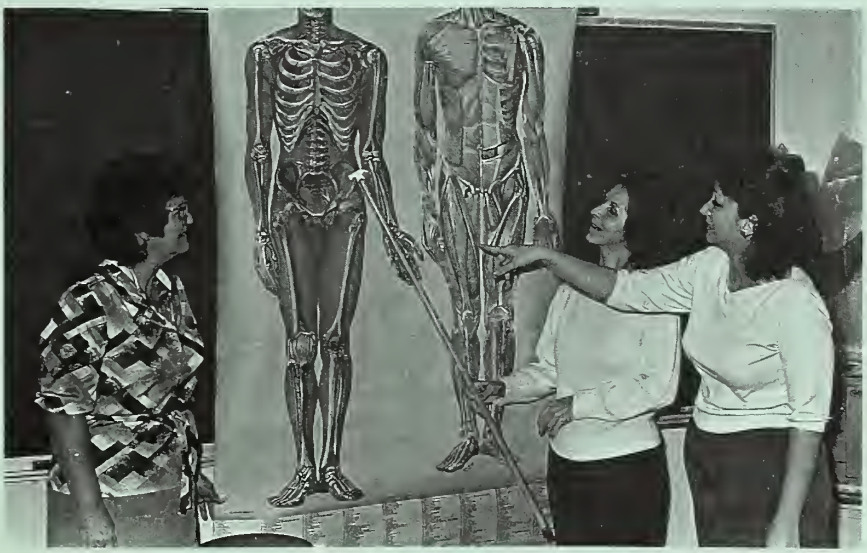
See pages 75 to 115 for course descriptions.

ASSOCIATE DEGREE NURSING

The Associate Degree Nursing curriculum is designed to prepare graduates to integrate the principles and theories of nursing and the sciences in utilizing the nursing process in the practice of nursing. The practice of nursing by associate degree nursing graduates consists of assessing the patient's physical and mental health, including the patient's reaction to illness and treatment regimens; recording and reporting the results of the nursing assessment; planning, initiating, delivering, and evaluating appropriate nursing acts; teaching, delegating to or supervising other personnel in implementing the treatment regimen; collaborating with other health care providers in determining the appropriate health care for a patient; implementing the treatment and pharmaceutical regimen prescribed by any person authorized by state law to prescribe such a regimen; providing teaching and counseling about the patient's health care; reporting and recording the plan for care, nursing care given, and the patient's response to that care; and supervising, teaching, and evaluating those who perform or are preparing to perform nursing functions.

Graduates are eligible to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a registered nurse.

Individuals desiring a career in registered nursing should take biology, algebra and chemistry courses prior to entering the program.



ASSOCIATE DEGREE NURSING

	HOURS PER WEEK			
	Class	Lab	Clinical	Quarter Hours Credit
FIRST QUARTER				
BIO 121 Anatomy and Physiology I	4	4	0	6
NUR 101 Fundamentals of Nursing	6	4	0	8
PSY 105 Introduction to Psychology	5	0	0	5
	15	8	0	19
SECOND QUARTER				
BIO 122 Anatomy and Physiology II	4	4	0	6
NUR 102 Common Stressors in Medical-Surgical Nursing	6	2	12	11
PSY 110 Human Growth and Development	3	0	0	3
	13	6	12	20
THIRD QUARTER				
BIO 123 Microbiology	4	4	0	6
NUR 103 Medical-Surgical Nursing I	6	0	12	10
SOC 104 Introduction to Sociology	5	0	0	5
	15	4	12	21
FOURTH QUARTER				
NUR 104 Maternal-Child Nursing	9	0	12	13
NUR 105 Issues and Trends	2	0	0	2
___ ___ Technical Elective	3	0	0	3
	14	0	12	18
FIFTH QUARTER				
ENG 208 English Composition I	5	0	0	5
NUR 201 Psychiatric Nursing	5	0	12	9
NUR 202 Patient Care Management	1	0	0	1
	11	0	12	15
SIXTH QUARTER				
ENG 209 English Composition II	5	0	0	5
NUR 203 Medical-Surgical Nursing II	6	0	15	11
	11	0	15	16
SEVENTH QUARTER				
ENG 204 Oral Communication	3	0	0	3
NUR 204 Medical-Surgical Nursing III	6	0	15	11
	9	0	15	14

See pages 75 to 115 for course descriptions.

BASIC LAW ENFORCEMENT TRAINING

The Basic Law Enforcement Training curriculum certificate program prepares individuals to take the Basic Training — Law Enforcement Officers certification examination mandated by the North Carolina Criminal Justice Education and Training Standards Commission and/or it prepares individuals to take the Justice Officers Basic Training certification examination mandated by the North Carolina Sheriffs' Education and Training Standards Commission. Successful completion of this curriculum certificate program requires that the student satisfy the minimum requirements for certification by the Criminal Justice Commission and/or the Sheriffs' Commission. The student satisfactorily completing this program should possess at least the minimum degree of general attributes, knowledge and skills to function as an inexperienced law enforcement officer.

Job opportunities are available with state, county, and municipal governments in North Carolina. In addition, knowledge, skills and abilities acquired in this course of study qualify one for job opportunities with private enterprises in such areas as industrial, retail, and private security.

To be eligible to take this course you must be twenty (20) years of age if you are considering employment with a Police Department and twenty-one (21) years of age with the Sheriffs Department. Also, you will need a letter of sponsorship either from a Police or Sheriff's Department.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
CJC 215 Law Enforcement Training (Clock Hours 374)	13	0	21	20
CJC 216 Police Officer Training (Clock Hours 22)	2	0	0	2
CJC 217 Deputy Sheriff Training (Clock Hours 33)	1	2	0	2
CJC 218 Physical Training (Clock Hours 44)	1	0	3	2
	17	2	24	26

See pages 75 to 115 for course descriptions.

BUSINESS ADMINISTRATION

The Business Administration curriculum is designed to prepare an individual for entry into middle-management occupations in various businesses and industries. The curriculum provides an overview of the business and industrial world, its organization and management.

The purpose of the curriculum will be fulfilled through courses designed to develop competency in understanding the principles of organization and management in business operations, utilizing modern techniques to make decisions, understanding the economy through study and analysis of the role of production and marketing, communicating orally and in writing, and interpersonal relationships.

Through these skills and through development of personal competencies and qualities, the individual will be able to function effectively in middle-management activities in business or industry.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
BUS 102 Typewriting I	2	0	3	3
BUS 115 Business Law I	5	0	0	5
ENG 105 Grammar and Composition	3	2	0	4
MAT 110 Business Mathematics	5	0	0	5
SOC 102 Principles of Sociology	3	0	0	3
	18	2	3	20
SECOND QUARTER				
BUS 103 Typewriting II	2	0	3	3
BUS 120 Accounting I	5	2	0	6
ENG 106 Grammar and Composition	3	2	0	4
MAT 130 Advanced Business Mathematics	5	0	0	5
SOC 206 American Institutions	3	0	0	3
	18	4	3	21
THIRD QUARTER				
BUS 121 Accounting II	5	2	0	6
EDP 101 Computer Familiarization	2	2	0	3
ENG 104 Reading and Composition	3	0	0	3
ENG 204 Oral Communication	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	16	4	0	18

FOURTH QUARTER					
BUS 122	Accounting III	5	2	0	6
BUS 128	Computerized Accounting - Electronic Spreadsheet	1	2	0	2
BUS 229	Taxes I	3	2	0	4
ECO 102	Economics I	3	0	0	3
EDP 250	BASIC Business Programming	2	2	0	3
		14	8	0	18
FIFTH QUARTER					
BUS 123	Business Finance I	3	2	0	4
BUS 222	Word Processing	2	0	3	3
BUS 239	Marketing	5	0	0	5
___ ___	Major Elective	3	2	0	4
ECO 104	Economics II	3	0	0	3
___ ___	Technical Elective	3	0	0	3
		19	4	3	22
SIXTH QUARTER					
BUS 124	Business Finance II	3	2	0	4
BUS 125	Accounting IV	5	2	0	6
BUS 232	Sales Development	3	0	0	3
BUS 235	Business Management	3	2	0	4
PSY 217	Introduction to Psychology	3	0	0	3
		17	6	0	20

MAJOR ELECTIVES					
BUS 116	Business Law II	5	0	0	5
BUS 230	Taxes II	3	2	0	4
DMK 163	Fundamentals of Real Estate	6	0	0	6
DMK 164	Real Estate Law	3	0	0	3
DMK 209	Real Estate Finance	3	0	0	3
DMK 271	Real Estate Brokerage Operations	3	0	0	3
DMK 292	Real Estate Appraisal	3	0	0	3
DMK 296	Property Management	3	0	0	3
INS 215	Life and Health Insurance	4	0	0	4
INS 216	Property and Casualty Insurance	4	0	0	4

SPLIT COURSE- Upon completion of EDP101-A and EDP101-B, full credit will be given for EDP 101, Computer Familiarization.

EDP 101-A Computer Familiarization	1	0	0	1
EDP 101-B Computer Familiarization	1	2	0	2

See pages 75 to 115 for course descriptions.

CHEMICAL TECHNOLOGY

The Chemical Technology curriculum prepares individuals as research assistants to chemists in the laboratory or as planning and production assistants to chemical engineers in actual industrial production.

Chemical technicians perform quantitative and qualitative chemical analyses of processes involved in research, production, or monitoring situations. They test samples of raw materials to determine that they are within specification limits required, analyze samples of finished products to determine quality and prepare laboratory test reports, check chemical analyses with specifications, and operate electronic laboratory equipment.

CHEMICAL TECHNOLOGY

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
CHM 114 Basic Chemical Concepts I	5	0	6	7
ENG 101 Grammar	3	0	0	3
HED 120 First Aid	3	0	0	3
MAT 121 Technical Mathematics	5	0	0	5
PSY 217 Introduction to Psychology	3	0	0	3
	19	0	6	21
SECOND QUARTER				
CHM 115 Basic Chemical Concepts II	5	0	6	7
ENG 102 Composition	3	0	0	3
MAT 122 Technical Mathematics	5	0	0	5
SOC 102 Principles of Sociology	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	19	0	6	21
THIRD QUARTER				
BIO 110 General Biology	3	2	0	4
CHM 116 Descriptive Chemistry	3	0	6	5
CHM 230 Organic Chemistry I	3	0	0	3
ENG 103 Report Writing	3	0	0	3
PHY 100 Introductory Physics	4	2	0	5
	16	4	6	20
FOURTH QUARTER				
CHM 117 Unit Processes	1	0	18	7
CHM 150 Industrial Operations	5	0	0	5
___ ___ Technical Elective	3	0	0	3
	9	0	18	15
FIFTH QUARTER				
CHM 231 Organic Chemistry II	3	0	6	5
CHM 243 Industrial Analysis I (Qualitative)	1	0	6	3
ENG 204 Oral Communication	3	0	0	3
PHY 105 Physics: Heat and Fluids	3	2	0	4
	10	2	12	15
SIXTH QUARTER				
BIO 215 Microbiology	3	4	0	5
CHM 232 Organic Chemistry III	3	0	3	4
CHM 244 Industrial Analysis II (Quantitative)	1	0	9	4
PHY 103 Physics: Electricity	3	2	0	4
	10	6	12	17
SEVENTH QUARTER				
CHM 233 Biochemical Concepts	3	2	0	4
CHM 245 Industrial Analysis III (Quantitative)	3	0	9	6
FST 106 Nuclear Radiation Monitoring	3	0	0	3
MEC 235 Hydraulics and Pneumatics	3	0	3	4
	12	2	12	17

See pages 75 to 115 for course descriptions.

COMPUTER ENGINEERING TECHNOLOGY

This program is intended to provide the skills required to install, service, and maintain computers, microprocessor and computer controlled equipment and computer peripheral devices.

The curriculum provides training in both the hardware and software areas of the computer field.

A sequence of introductory hardware courses provides the student with a strong background in physics, technical mathematics, electricity, electronics and digital logic circuits and concepts. Advanced course work provides a detailed study of the logic of the central processing unit, the operation of integrated circuits in the central processing unit, the operation and use of integrated circuit memory devices, and the interfacing of the central processing unit to memory devices. Additional studies cover interfacing the central processing unit to external devices using both serial and parallel data transfer, the operation of large scale integrated programmable interface units and their interfacing with the central processing unit, and the operation of computer peripheral devices such as video displays, printers, floppy disk storage systems, magnetic type units, keyboards and the techniques of converting signals between the analog and digital forms.

The programming course work provides a sequence of study stressing good program design techniques and structured programming, and program documentation. Rather than being familiar with a large number of programming languages, the student is expected to learn well a highly structured language, such as PASCAL, and an Assembly Language. The importance of Assembly Language to the understanding of the operation of the central processing unit and the related computer units is stressed. Computer operating system concepts are discussed to provide an unified view of the hardware and software aspects of the computer system.

Prerequisites: In addition to general admissions requirements, at least one year of high school algebra or the equivalent is required.

COMPUTER ENGINEERING TECHNOLOGY

		HOURS PER WEEK			
		Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER					
ELC 107	Electricity I	3	0	6	5
ELN 102	Electronic Fabrication Techniques	0	2	0	1
ELN 106	Electronics I	2	0	6	4
ENG 101	Grammar	3	0	0	3
MAT 121	Technical Mathematics	5	0	0	5
		13	2	12	18
SECOND QUARTER					
ELC 108	Electricity II	3	0	6	5
ELN 107	Electronics II	3	0	6	5
ENG 102	Composition	3	0	0	3
MAT 122	Technical Mathematics	5	0	0	5
		14	0	12	18
THIRD QUARTER					
ELC 109	Electricity III	3	0	6	5
ELN 108	Electronics III	3	0	6	5
MAT 123	Technical Mathematics	5	0	0	5
PHY 101	Physics: Properties of Matter	3	2	0	4
		14	2	12	19
FOURTH QUARTER					
DFT 100	Technical Drafting	1	0	3	2
ELN 109	Electronics IV	3	0	6	5
ELN 110	Introduction to Digital Electronics	3	0	6	5
ENG 103	Report Writing	3	0	0	3
PHY 102	Physics: Work, Energy and Power	3	2	0	4
		11	2	9	19
FIFTH QUARTER					
EDP 201	BASIC Language Programming I	2	0	3	3
ELN 240	Computer Project (Digital)	0	0	3	2
ELN 241	Digital Principles and Applications	2	0	3	3
ELN 243	Computer Electronics	0	0	3	1
ELN 250	Introduction to Computer Systems	0	0	6	2
PSY 217	Introduction to Psychology	3	0	0	3
___ ___	Elective	3	0	0	3
		10	0	21	17
SIXTH QUARTER					
EDP 210	BASIC Language Programming II	2	0	3	3
ELN 244	Computer Project (Microprocessor)	1	0	3	2
ELN 245	Peripheral Devices	1	0	6	3
ELN 251	Microprocessors I	2	0	6	4
ENG 204	Oral Communication	3	0	0	3
SOC 102	Principles of Sociology	3	0	0	3
		12	0	18	18
SEVENTH QUARTER					
BUS 272	Principles of Supervision	3	0	0	3
ELN 247	Computer Project (Microcomputer)	0	0	3	1
ELN 249	Computer Interfacing	0	0	3	1
ELN 252	Microprocessors II	2	0	6	4
ELN 255	Computer Systems	3	0	3	4
___ ___	Elective	3	0	0	3
		11	0	15	16

UNDER REVISION

See page 32 for a general description of the electronic curriculums.
See pages 75 to 115 for course descriptions.

CRIMINAL JUSTICE - PROTECTIVE SERVICE TECHNOLOGY

The Criminal Justice Technology curriculum is designed so that it may be a multi-faceted program of study. It may consist of study options in corrections, law enforcement and security services.

The curriculum is designed with a core of courses to afford one the opportunity to acquire basic knowledge, skills and attitudes in the generally accepted subject areas associated with a two-year study of correctional services, law enforcement services and security services. It includes subjects such as interpersonal communications, law, psychology and sociology.

In addition to core subjects, the correctional services option provides an opportunity to study other generally accepted subjects indigenous to a two-year correctional services program such as confinement facility administrations, correction law, counseling, probation-parole services and rehabilitation options. Similarly, the law enforcement option provides an opportunity to study other generally accepted subjects included in a two-year law enforcement services program such as criminal behavior, criminal investigation, patrol operation, traffic management, and other aspects of law enforcement administration and operations. The security services option provides an opportunity to study other generally accepted subjects related to a two-year security services program such as accident prevention and safety management, common carrier protection, fire prevention, private security, industrial security, retail security, security systems and surveillance.

Job opportunities are available with federal, state, county and municipal governments. In addition, knowledge, skills and attitudes acquired in this course of study qualify one for job opportunities with private enterprise in such areas as industrial, retail, and private security.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
CJC 101 Introduction to Criminal Justice	3	0	0	3
CJC 104 Patrol Procedure and Traffic Law Enforcement	3	0	0	3
ENG 101 Grammar	3	0	0	3
MAT 121 Technical Mathematics	5	0	0	5
SOC 102 Principles of Sociology	3	0	0	3
	17	0	0	17

SECOND QUARTER				
BUS 102 Typewriting	2	0	3	3
CJC 103 Introduction to Criminal Investigation	3	0	0	3
CJC 115 Criminal Law	5	0	0	5
ENG 102 Composition	3	0	0	3
SOC 206 American Institutions	3	0	0	3
	16	0	3	17
THIRD QUARTER				
CJC 118 Defensive Tactics	1	0	3	2
CJC 141 Handwriting Identification	5	0	0	5
CJC 210 Criminal Investigation	3	0	0	3
ENG 103 Report Writing	3	0	0	3
PSY 217 Introduction to Psychology	3	0	0	3
	15	0	3	16
FOURTH QUARTER				
CJC 102 Introduction to Criminology	3	0	0	3
CJC 203 Forensic Photography	2	0	3	3
CJC 240 Firearms Identification	5	0	0	5
EDP 100 Computer Familarization	2	2	0	3
ENG 204 Oral Communication	3	0	0	3
	15	2	3	17
FIFTH QUARTER				
BUS 222 Word Processing	2	0	3	3
CHM 101 Introduction to Chemistry	4	2	0	5
CJC 105 Firearms	2	0	3	3
CJC 140 Fingerprint Identification	5	0	0	5
___ ___ Technical Elective	3	0	0	3
	16	2	6	19
SIXTH QUARTER				
BIO 103 Anatomy and Physiology	3	2	0	4
CJC 211 Introduction to Criminalistics	5	0	0	5
CJC 224 Industrial Security	3	0	0	3
PHY 225 Forensic Physics	3	2	0	4
	14	4	0	16
SEVENTH QUARTER				
CJC 220 Law Enforcement Organization and Management	3	0	0	3
CJC 222 Crime Scene Investigation	3	0	0	3
LEG 205 Constitutional Law	5	0	0	5
___ ___ Criminal Justice Elective	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	17	0	0	17
CRIMINAL JUSTICE ELECTIVES				
CJC 108 Research and Planning in Criminal Justice	1	0	6	3
CJC 205 Scientific Evidence	3	0	0	3
CJC 208 Arson Investigation	3	0	0	3
CJC 230 Contemporary Issues in Criminal Justice	3	0	0	3
PLS 103 State and Local Government	3	0	0	3

See pages 75 to 115 for course descriptions.

ELECTRONICS ENGINEERING TECHNOLOGY

The Electronics Technology curriculum provides a basic background in electronic related theory, with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may work as assistants to engineers or as liaisons between engineers and skilled craftspersons.

The electronics technician will start in one or more of the following areas: research, design, development, production, maintenance, or sales. The graduate may begin as an electronics technician, engineering aide, laboratory technician, supervisor, or equipment specialist.

Prerequisites: In addition to general admissions requirements, at least one year of high school algebra or the equivalent is required.

ELECTRONICS ENGINEERING TECHNOLOGY

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
ELC 107 Electricity I	3	0	6	5
ELN 102 Electronic Fabrication Techniques	0	2	0	1
ELN 106 Electronics I	2	0	6	4
ENG 101 Grammar	3	0	0	3
MAT 121 Technical Mathematics	5	0	0	5
	13	2	12	18
SECOND QUARTER				
ELC 108 Electricity II	3	0	6	5
ELN 107 Electronics II	3	0	6	5
ENG 102 Composition	3	0	0	3
MAT 122 Technical Mathematics	5	0	0	5
	14	0	12	18
THIRD QUARTER				
ELC 109 Electricity III	3	0	6	5
ELN 108 Electronics III	3	0	6	5
MAT 123 Technical Mathematics	5	0	0	5
PHY 101 Physics: Properties of Matter	3	2	0	4
	14	2	12	19
FOURTH QUARTER				
DFT 100 Technical Drafting	1	0	3	2
ELN 109 Electronics IV	3	0	6	5
ELN 110 Introduction to Digital Electronics	3	0	6	5
ENG 103 Report Writing	3	0	0	3
PHY 102 Physics: Work, Energy, and Power	3	2	0	4
	13	2	15	19
FIFTH QUARTER				
EDP 201 BASIC Language Programming I	2	0	3	3
ELN 202 Communication Electronics	3	0	6	5
ELN 232 Electronic Projects, Basic Wiring	0	0	3	1
ELN 236 Industrial Field Trips	0	0	3	1
ELN 241 Digital Principles and Applications	2	0	3	3
PSY 217 Introduction to Psychology	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	13	0	18	19
SIXTH QUARTER				
ELN 233 Analytic Electronic Troubleshooting	0	0	6	2
ELN 238 Antenna and Transmission Line Theory	2	0	3	3
ELN 253 Electronics in Industry	2	0	6	4
ENG 204 Oral Communication	3	0	0	3
SOC 102 Principles of Sociology	3	0	0	3
	10	0	15	15
SEVENTH QUARTER				
ELN 220 Electronic Systems	3	0	3	4
ELN 234 Electronic System Design and Construction	0	0	6	2
ELN 254 Microprocessors, Servocontrols, and Robotics	2	0	6	4
PHY 104 Physics: Light and Sound	3	2	0	4
SOC 206 American Institutions	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	14	2	15	20

See page 32 for a general description of the electronic curriculums.
See pages 75 to 115 for course descriptions.

GENERAL EDUCATION

The General Education program is designed for those students who desire a basic exposure to the areas of English, literature, fine arts, philosophy, social science, science, and mathematics and who would like to tailor their educational goals to personal interests rather than to specific professional requirements.

The General Education program offers three alternatives for students: first, is the pursuit of an Associate in General Education degree (a two-year degree), which will take approximately six quarters; second, is the opportunity to transfer to either a four-year college or to a university to pursue a baccalaureate degree; and third, to provide academic enrichment.

Also, adults who want to explore a subject for their own enrichment and pleasure may enroll as special students (those who are not seeking a degree). Such students may elect to take as little as one course each quarter. Classes may be scheduled during the day and evening so that employed persons may attend. Each General Education program student will be offered special assistance in planning an education program and in relating the program to his/her personal goals.

A student is eligible to be granted the Associate in General Education degree (AGE) upon the completion of 96 quarter hours credit. These hours are to be comprised of the minimums indicated in each of the five following areas; the required courses marked by an asterisk (*) and 42 quarter hours credit chosen by the student from the following listing.

	HOURS PER WEEK			
	Class	Lab	Manipu-Lative Lab	Quarter Hours Credit
CREATIVE ARTS (A minimum of five (5) quarter hours credit)				
ART 201 Art History and Appreciation	5	0	0	5
ART 241 Beginning Painting	2	6	0	5
ENG 207 Poetry Writing	5	0	0	5
MUS 115 Survey of Music Literature	5	0	0	5
MUS 118 Music History	5	0	0	5
PHYSICAL EDUCATION (A minimum of three (3) quarter hours credit)				
*PED 101 Foundations of Physical Activity	2	2	0	3

HUMANITIES
(A minimum of fifteen (15) quarter hours credit must be taken comprised of least two areas in addition to those required courses marked by an asterisk (*).)

* ENG 101	Grammar	3	0	0	3
* ENG 102	Composition	3	0	0	3
* ENG 103	Report Writing	3	0	0	3
ENG 104	Reading and Composition	3	0	0	3
ENG 204	Oral Communication	3	0	0	3
HIS 101	Western Civilization I	5	0	0	5
HIS 102	Western Civilization II	5	0	0	5
P&R 103	Introduction to Religion	5	0	0	5

NATURAL SCIENCE AND MATHEMATICS
(A minimum of twelve (12) quarter hours credit must be taken comprised of least two areas, including one laboratory science course. This is in addition to those required courses marked by an asterisk (*).)

BIO 101	Human Anatomy and Physiology I	4	2	0	5
BIO 107	Human Anatomy and Physiology II	4	2	0	5
BIO 121	Anatomy and Physiology I	4	4	0	6
BIO 122	Anatomy and Physiology II	4	4	0	6
BIO 123	Microbiology	4	4	0	6
BUS 120	Accounting I	5	2	0	6
BUS 121	Accounting II	5	2	0	6
CHM 101	Introduction to Chemistry	4	2	0	5
CHM 114	Basic Chemical Concepts I	5	0	6	7
CHM 115	Basic Chemical Concepts II	5	0	6	7
CHM 118	Basic Chemistry	2	2	0	3
GEO 101	Marine Geology	3	2	0	4
GEO 102	Geology of the Oceans	4	0	0	4
GGY 135	Introduction to Physical Geography	4	4	0	6
* MAT 121	Technical Mathematics	5	0	0	5
MAT 122	Technical Mathematics	5	0	0	5
MAT 123	Technical Mathematics	5	0	0	5
MAT 200	Precalculus	5	0	0	5
MAT 201	Calculus I	5	0	0	5
MAT 202	Calculus II	5	0	0	5
PHY 101	Physics: Properties of Matter	3	2	0	4
PHY 102	Physics: Work, Energy and Power	3	2	0	4
PHY 103	Physics: Electricity	3	2	0	4
PHY 104	Physics: Light and Sound	3	2	0	4
PHY 105	Physics: Heat and Fluids	3	2	0	4

SOCIAL AND BEHAVIORAL SCIENCES
(A minimum of five (5) quarter hours credit)

ANT 105	Introduction to Anthropology	5	0	0	5
CJC 101	Introduction to Criminal Justice	3	0	0	3
ECO 102	Economics I	3	0	0	3
ECO 104	Economics II	3	0	0	3
ECO 108	Consumer Economics	3	0	0	3
ECO 110	Macroeconomics	5	0	0	5
EDU 205	Teaching Methods	1	2	0	2
PLS 101	American National Government	5	0	0	5

			HOURS PER WEEK			
			Class	Lab	Manipu-Lative Lab	Quarter Hours Credit
PLS	103	State and Local Government	3	0	0	3
PSY	105	Introduction to Psychology	5	0	0	5
PSY	110	Human Growth and Development	3	0	0	3
PSY	217	Introduction to Psychology	3	0	0	3
SOC	102	Principles of Sociology	3	0	0	3
SOC	104	Introduction to Sociology	5	0	0	5
SOC	206	American Institutions	3	0	0	3
SOC	212	Sociology of Deviant Behavior	3	0	0	3
SOC	217	Juvenile Delinquency	3	0	0	3
SOC	219	Family in Society	3	0	0	3

NOTE: Requirements for the different pre-professional areas will vary; therefore, it is the responsibility of the student to check the catalog of the senior institution to which the student wishes to transfer. High school background, scholastic aptitude, and vocational goals also will be considered as factors shaping the individual's program of study. Counselors and faculty members are available to assist the student in course selection.

Quarter Hours Credit Needed for the Associate in General Education Degree

	Quarter Hours Credit
Required five course (marked with asterisk)	17
Creative Arts	5
Humanities	15
Physical Education (part of 17 required quarter hours credit)	
Natural Sciences and Mathematics	12
Social and Behavioral Sciences	5
Sub Total	54
Student Selection	42
Total for Associate in General Education Degree	96

GENERAL OCCUPATIONAL TECHNOLOGY

The General Occupational Technology curriculum is designed to meet the needs of full-time and part-time employees in business and industry. This program of study provides these individuals with an opportunity to upgrade their skills and/or to earn an associate degree by taking courses suited to their occupational needs. The curriculum consists of a basic core of courses in communication, mathematics, and social science. The balance of the curriculum consists of a sequence of technical courses individually tailored to satisfy the requirements of the student and/or the student's employer.

Students working with their academic advisory and employer will develop a program of study that meets the criteria for the General Occupational Technology degree. The program of study must specify the major area of study along with specified related and general courses to be completed. The completed program of study must be signed by the student's academic advisory and filed in the Registrar's office within the first quarter of attendance at the College.

To graduate with an Associate in Applied Science degree in General Occupational Technology, a student must complete eighteen (18) quarter hours of general courses, thirty-one (31) quarter hours of related courses, and sixty (60) quarter hours of major technical courses for a total of 109 quarter hours credit.

MAJOR COURSES - 60-71 Quarter Hours Credit
Students are to select a minimum of sixty (60), maximum of seventy-one (71), quarter hours from the technical curriculum courses that are currently being offered by the college. An individualized program of study is prepared for each student by the student and his or her faculty advisor. The program of study will be based upon the student's educational needs and objectives, and will demonstrate an area of major concentration.

RELATED COURSES - 31-42 Quarter Hours Credit
Related courses support and enrich the foundation of major technical courses. Students are to select a minimum of thirty-one (31), maximum forty-two (42), quarter hours of related electives from the following academic disciplines:

	Quarter Hours Credit
Mathematics	9-20
Technical Math	
Business Math	
Statistics	
Physics	8-15
Introduction to Computers	4-8
Business	3-9
Economics	
Accounting	
Computer Programming	
Other	3-9
Drafting	

GENERAL COURSES - 18-27 Quarter Hours Credit
Students are required to complete a minimum of eighteen (18), maximum of twenty-seven (27), quarter hours of general courses from the following academic disciplines:

	Quarter Hours Credit
Communications	9-15
Grammar	
Composition	
Speech	
Report Writing	
Social Science	6-9
Psychology	
Sociology	
Political Science	

NOTICE: The following full-time two-year programs, under appropriate circumstances, may be completed on a part-time bases, in the evening, over a period of four years.

Business Administration
Criminal Justice - Public Service Technology
Electronic Engineering Technology
Mechanical Drafting and Design Technology

Although a student may enter one of several curriculum programs offered in the evening, some course work may be required during the day to complete the program. Every effort is made to provide courses in the evening that will allow students to complete a particular program. However, courses can only be offered when there is sufficient demand and when there are qualified instructors available. Students who anticipate completing a degree by taking evening courses should first consult with one of the admission's counselors.

BUSINESS ADMINISTRATION
(FOUR-YEAR OPTION)

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
BUS 102 Typewriting I	2	0	3	3
MAT 110 Business Mathematics	5	0	0	5
	7	0	3	8
SECOND QUARTER				
BUS 115 Business Law I	5	0	0	5
ENG 105 Grammar and Composition	3	2	0	4
SOC 102 Principles of Sociology	3	0	0	3
	11	2	0	12
THIRD QUARTER				
BUS 103 Typewriting II	2	0	3	3
BUS 120 Accounting I	5	2	0	6
	7	2	3	9

FOURTH QUARTER				
ENG 106 Grammar and Composition	3	2	0	4
MAT 130 Advanced Business Mathematics	5	0	0	5
SOC 206 American Institutions	3	0	0	3
	11	2	0	12
FIFTH QUARTER				
BUS 121 Accounting II	5	2	0	6
EDP 101 Computer Familiarization	2	2	0	3
	7	4	0	9
SIXTH QUARTER				
ENG 104 Reading and Composition	3	0	0	3
ENG 204 OralCommunication	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	9	0	0	9
SEVENTH QUARTER				
BUS 122 Accounting III	5	2	0	6
BUS 229 Taxes I	3	2	0	4
	8	4	0	10
EIGHTH QUARTER				
BUS 128 Computerized Accounting	1	2	0	2
ECO 102 Economics I	3	0	0	3
EDP 250 BASIS Business Programming	2	2	0	3
	6	4	0	8
NINTH QUARTER				
BUS 123 Business Finance I	3	2	0	4
BUS 230 Taxes II	3	2	0	4
	6	4	0	8
TENTH QUARTER				
BUS 222 Word Processing	2	0	3	3
BUS 239 Marketing	5	0	0	5
	7	0	3	8
ELEVENTH QUARTER				
ECO 104 Economics II	3	0	0	3
PSY 217 Introduction to Psychology	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	9	0	0	9
TWELFTH QUARTER				
BUS 124 Business Finance II	3	2	0	4
BUS 125 Accounting IV	5	2	0	6
	8	4	0	10
THIRTEENTH QUARTER				
BUS 232 Sales Development	3	0	0	3
BUS 235 Business Management	3	2	0	4
	6	2	0	7

CRIMINAL JUSTICE - PUBLIC SERVICE TECHNOLOGY
(FOUR-YEAR OPTION)

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
CJC 101 Introduction to Criminal Justice	3	0	0	3
ENG 101 Grammar	3	0	0	3
	6	0	0	6
SECOND QUARTER				
CJC 104 Patrol Procedures and Traffic Law Enforcement	3	0	0	3
ENG 102 Composition	3	0	0	3
	6	0	0	6
THIRD QUARTER				
CJC 103 Introduction to Criminal Investigation	3	0	0	3
ENG 103 Report Writing	3	0	0	3
	6	0	0	6
FOURTH QUARTER				
CJC 210 Criminal Investigation	3	0	0	3
ENG 204 Oral Communication	3	0	0	3
	6	0	0	6
FIFTH QUARTER				
CJC 115 Criminal Law	5	0	0	5
MAT 121 Technical Mathematics	5	0	0	5
	10	0	0	10
SIXTH QUARTER				
CJC 118 Defensive Tactics	1	0	3	2
SOC 102 Principles of Sociology	3	0	0	3
	4	0	3	5
SEVENTH QUARTER				
BUS 102 Typewriting I	2	0	3	3
CJC 141 Handwriting Identification	5	0	0	5
	7	0	3	8
EIGHTH QUARTER				
CJC 102 Introduction to Criminology	3	0	0	3
SOC 206 American Institutions	3	0	0	3
	6	0	0	3
NINTH QUARTER				
CJC 203 Forensic Photography	2	0	3	3
PSY 217 Introduction to Psychology	3	0	0	3
	5	0	3	6
TENTH QUARTER				
CJC 240 Firearms Identification	5	0	0	5
EDP 101 Computer Familrization	2	2	0	3
	7	2	0	8
ELEVENTH QUARTER				
BUS 222 Word Processing	2	0	3	3
CJC 140 Fingerprint Identification	5	0	0	5
	7	0	3	8
TWELFTH QUARTER				
CHM 101 Introduction to Chemistry	4	2	0	5
CJC 105 Firearms	2	0	3	3
	6	2	3	8

THIRTEEN QUARTER				
BIO 103 Anatomy and Physiology	3	2	0	4
___ ___ Technical Elective	3	0	0	3
	6	2	0	7
FOURTEENTH QUARTER				
CJC 224 Industrial Security	3	0	0	3
PHY 225 Forensic Physics	3	2	0	4
	6	2	0	7
FIFTEENTH QUARTER				
CJC 211 Introduction to Criminalistics	5	0	0	5
LEG 205 Constitutional Law	5	0	0	5
	10	0	0	10
SIXTEENTH QUARTER				
CJC 220 Law Enforcement Organization and Management	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	6	0	0	6
SEVENTEENTH QUARTER				
CJC 222 Crime Scene Investigation	3	0	0	3
___ ___ Criminal Justice Elective	3	0	0	3
	6	0	0	6

ELECTRONIC ENGINEERING TECHNOLOGY
(FOUR-YEAR OPTION)

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
ELC 107 Electricity I	3	0	6	5
MAT 121 Technical Mathematics	5	0	0	5
	8	0	6	10
SECOND QUARTER				
ELC 108 Electricity II	3	0	6	5
MAT 122 Technical Mathematics	5	0	0	5
	8	0	6	10
THIRD QUARTER				
ELC 109 Electricity III	3	0	6	5
MAT 123 Technical Mathematics	5	0	0	5
	8	0	6	10
FOURTH QUARTER				
DFT 100 Technical Drafting	1	0	3	2
ENG 101 Grammar	3	0	0	3
	4	0	3	5
FIFTH QUARTER				
ELN 102 Electronic Fabrication Techniques	0	2	0	1
ELN 106 Electronics I	2	0	6	4
ENG 102 Composition	3	0	0	3
	5	2	6	8
SIXTH QUARTER				
ELN 107 Electronics II	3	0	6	5
PHY 101 Physics: Properties of Matter	3	2	0	4
	6	2	6	9
SEVENTH QUARTER				
ELN 108 Electronics III	3	0	6	5
PHY 102 Physics: Work, Energy, and Power	3	2	0	4
	6	2	6	9

EIGHTH QUARTER				
ELN 109 Electronics IV	3	0	6	5
ELN 110 Introduction to Digital Electronics	3	0	6	5
ENG 103 Report Writing	3	0	0	3
	9	0	12	13
NINTH QUARTER				
ELN 202 Communication Electronics	3	0	6	5
ELN 232 Electronic Projects, Basic Wiring	0	0	3	1
ELN 241 Digital Prinicples and Applications	2	0	3	3
	5	0	12	9
TENTH QUARTER				
ELN 238 Antenna and Transmission Line Theory	2	0	3	3
ELN 253 Electronics in Industry	2	0	6	4
ENG 204 Oral Communication	3	0	0	3
	7	0	9	10
ELEVENTH QUARTER				
ELN 220 Electronic Systems	3	0	3	4
ELN 254 Microprocessors, Servocontrol, and Robotics	2	0	6	4
PHY 104 Physics: Light and Sound	3	2	0	4
	8	2	9	12
TWELFTH QUARTER				
EDP 201 BASIC Language Programming I	2	0	3	3
ELN 236 Industrial Field Trips	0	0	3	1
PSY 217 Introduction to Psychology	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	8	0	6	10
THIRTEENTH QUARTER				
ELN 233 Analytic Electronic Troubleshooting	0	0	6	2
SOC 102 Principles of Sociology	3	0	0	3
	3	0	6	5
FOURTEENTH QUARTER				
ELN 234 Electronic System Design and Construction	0	0	6	2
SOC 206 American Institutions	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	6	0	6	8

MECHANICAL DRAFTING AND DESIGN TECHNOLOGY
(FOUR-YEAR OPTION)

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
DFT 101 Technical Drafting	3	0	9	6
SECOND QUARTER				
ENG 101 Grammar	3	0	0	3
MAT 121 Technical Mathematics	5	0	0	5
MEC 121 Industrial Methods	0	0	3	1
SOC 102 Principles of Sociology	3	0	0	3
	11	0	3	12
THIRD QUARTER				
DFT 102 Technical Drafting	3	0	9	6

FOURTH QUARTER				
ENG 102 Composition	3	0	0	3
MAT 122 Technical Mathematics	5	0	0	5
MEC 122 Industrial Methods	0	0	3	1
PHY 101 Physics: Properties of Matter	3	2	0	4
	11	2	3	13
FIFTH QUARTER				
DFT 103 Technical Drafting	3	0	9	6
SIXTH QUARTER				
ENG 103 Report Writing	3	0	0	3
MAT 123 Technical Mathematics	5	0	0	5
MEC 123 Industrial Methods	0	0	3	1
PHY 102 Physics: Work, Power, and Energy	3	2	0	4
	11	2	3	13
SEVENTH QUARTER				
DFT 201 Technical Drafting and Computer Graphics	6	0	6	8
EIGHTH QUARTER				
ENG 204 Oral Communication	3	0	0	3
PHY 103 Physics: Electricity	3	2	0	4
PSY 217 Introduction to Psychology	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	12	2	0	13
NINTH QUARTER				
DFT 202 Technical Drafting and Computer Graphics	6	0	6	8
TENTH QUARTER				
DFT 200 Dimensioning and Tolerancing	3	0	0	3
MEC 209 Introduction to Metallurgy	3	2	0	4
PHY 106 Applied Mechanics	3	2	0	4
___ ___ Technical Elective	3	0	0	3
	12	4	0	14
ELEVENTH QUARTER				
DFT 203 Design Drafting and Computer Graphics	6	0	6	8
TWELFTH QUARTER				
MEC 205 Strength of Materials	3	2	0	4
MEC 216 Industrial Materials	5	0	0	5
MEC 235 Hydraulics and Pneumatics	3	0	3	4
	11	2	3	13

SPLIT COURSE - When DFT 204, Technical Drafting, and DFT 205, Computer Graphics, are completed, full credit will be given for DFT 201, Technical Drafting and Computer Graphics.

DFT 204 Technical Drafting	3	0	3	4
DFT 205 Computer Graphics	3	0	3	4

GENERAL OFFICE

The purposes of the General Office curriculum are to prepare the individual to enter clerical-office occupations, provide an educational program for individuals wanting education for upgrading (moving from one position to another) or retraining (moving from present position to a clerical position), and provide an opportunity for individuals wanting to fulfill professional or general interest needs.

The purpose will be fulfilled through skill development in the areas of typewriting, filing and business machines. Through these skills and through development of personal competencies and qualities, the individual will be able to function effectively in office-related activities.

GENERAL OFFICE

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
BUS 102 Typewriting I	2	0	3	3
EDP 101 Computer Familiarization	2	2	0	3
ENG 105 Grammar and Composition	3	2	0	4
MAT 110 Business Mathematics	5	0	0	5
PSY 217 Introduction to Psychology	3	0	0	3
	15	4	3	18
SECOND QUARTER				
BUS 103 Typewriting II	2	0	3	3
BUS 120 Accounting I	5	2	0	6
ENG 106 Grammar and Composition	3	2	0	4
MAT 130 Advanced Business Mathematics	5	0	0	5
SOC 102 Principles of Sociology	3	0	0	3
	18	4	3	21
THIRD QUARTER				
BUS 104 Typewriting III	2	0	3	3
BUS 121 Accounting II	5	2	0	6
BUS 128 Computerized Accounting - Electronic Spreadsheet	1	2	0	2
BUS 183 Terminology and Vocabulary	3	0	0	3
ENG 104 Reading and Composition	3	0	0	3
	14	4	3	17
FOURTH QUARTER				
BUS 122 Accounting III	5	2	0	6
BUS 205 Advanced Typewriting I	2	0	3	3
BUS 229 Taxes I	3	2	0	4
ECO 102 Economics I	3	0	0	3
or BUS 110 Speedwriting and Transcription I	(3)	(2)	(0)	(4)
	13	4	3	16
FIFTH QUARTER				
BUS 239 Marketing	5	0	0	5
ECO 104 Economics II	3	0	0	3
or BUS 111 Speedwriting and Transcription II	(3)	(2)	(0)	(4)
EDP 250 BASIC Business Programming	2	2	0	3
ENG 204 Oral Communication	3	0	0	3
___ ___ Elective	3	0	0	3
___ ___ Elective	3	0	0	3
	19	2	0	20
SIXTH QUARTER				
BUS 112 Filing	3	0	0	3
BUS 213 Office Procedures	1	2	0	2
BUS 222 Word Processing	2	0	3	3
BUS 232 Sales Development	3	0	0	3
BUS 235 Business Management	3	2	0	4
SOC 206 American Institutions	3	0	0	3
	15	4	3	18

See pages 75 to 115 for course descriptions.

INSTRUMENTATION TECHNOLOGY

The Instrumentation Technology curriculum provides a program of study to develop knowledge of measuring and controlling devices and to develop the technical skills involved in the application of instrument control to processes, systems, and operations of modern industry. The instrumentation technician is a key person in keeping a processing plant operating. This individual is responsible for both production and production control and must deal with variables that affect manufacturing processes such as temperature, flow, level, humidity, density and viscosity that affect manufacturing processes. In many plants when a piece of equipment breaks down, employees are laid off until the instrumentation person can repair the equipment and production is resumed. This person's knowledge of mechanics, electronics, pneumatics and the manufacturing processes is the key factor in how quickly a machine or plant may again resume operation.

The instrumentation technician may select, install, calibrate, check out and maintain sensing, telemetering, and recording instrumentation and circuitry. Other functions may include devising, setting up and operating instrumentation equipment involved in testing mechanical, structural or electrical equipment. The graduate may work as an instrumentation technician, engineering aide or associate, service specialist, laboratory technician or instrument field service technician.

Prerequisites: In addition to general admission requirements, at least one year of high school algebra or the equivalent is required.

INSTRUMENTATION TECHNOLOGY

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
ELC 107 Electricity I	3	0	6	5
ELN 102 Electronic Fabrication Techniques	0	2	0	1
ELN 106 Electronics I	2	0	6	4
ENG 101 Grammar	3	0	0	3
MAT 121 Technical Mathematics	5	0	0	5
	13	2	12	18
SECOND QUARTER				
ELC 108 Electricity II	3	0	6	5
ELN 107 Electronics II	3	0	6	5
ENG 102 Composition	3	0	0	3
MAT 122 Technical Mathematics	5	0	0	5
	13	0	12	18
THIRD QUARTER				
CHM 118 Basic Chemistry	2	2	0	3
ELC 109 Electricity III	3	0	6	5
ELN 108 Electronics III	3	0	6	5
MAT 123 Technical Mathematics	5	0	0	5
	13	2	12	18
FOURTH QUARTER				
DFT 100 Technical Drafting	1	0	3	2
ELN 109 Electronics IV	3	0	6	5
ELN 110 Introduction to Digital Electronics	3	0	6	5
ENG 103 Report Writing	3	0	0	3
PHY 100 Introductory Physics	4	2	0	5
	14	2	15	20
FIFTH QUARTER				
ELN 224 Measurement and Control I	2	0	9	5
ELN 236 Industrial Field Trips	0	0	3	1
ELN 241 Digital Principles and Applications	2	0	3	3
PHY 105 Physics: Heat and Fluids	3	2	0	4
PSY 217 Introduction to Psychology	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	13	2	15	19
SIXTH QUARTER				
ELN 225 Measurement and Control II	2	0	9	5
ELN 251 Microprocessors I	2	0	6	4
PHY 104 Physics: Light and Sound	3	2	0	4
SOC 102 Principles of Sociology	3	0	0	3
	10	2	15	16
SEVENTH QUARTER				
ELN 226 Measurement and Control III	2	0	9	5
ELN 252 Microprocessors II	2	0	6	4
ENG 204 Oral Communication	3	0	0	3
SOC 206 American Institutions	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	13	0	15	18

See page 32 for a general description of the electronic curriculums.
See pages 75 to 115 for course descriptions.

MARINE TECHNOLOGY

The Marine Technology curriculum is designed to provide the science, English, mathematics, and practical skills essential for success in the area of marine scientific support. This curriculum provides the student with the opportunity to become proficient in the general knowledge and skills required of a scientific support technician through practical training aboard ship as well as in the classroom. The Marine Technology curriculum prepares individuals to use and maintain sophisticated equipment such as electronic navigation devices, physical and chemical measuring instruments, sampling devices, and data acquisition and reduction systems aboard ocean-going and other types of vessels.

Graduates of this program will be basically qualified to work in the following areas: data acquisition and reduction, environmental monitoring, geophysical exploration, general applied oceanography, field and laboratory biology, water analysis, water and wastewater treatment laboratory analysis, nuclear power plant environmental work, fishing gear construction and repair, small engine maintenance and repair, fishing, marine salvage and other marine scientific activities. Employment opportunities are available with various state and federal agencies and with private businesses and industries associated with marine science and research.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
BIO 131 Marine Biology	2	0	3	3
BUS 100 Typewriting	0	0	3	1
HED 121 First Aid and Marine Safety	3	0	0	3
ENG 101 Grammar	3	0	0	3
MSC 109 Oceanography I	3	0	0	3
MSC 111 Net Construction Methods	1	0	3	2
MSC 132 Power Boat Operations and Seamanship	1	0	3	2
SHI 101 Ocean Survey	(44-88 Clock Hours)			2
				19
SECOND QUARTER				
BIO 132 Marine Invertebrate Zoology	2	0	3	3
MAT 121 Technical Mathematics	5	0	0	5
MSC 101 Navigation I	2	2	0	3
MSC 110 Oceanography II	3	0	0	3
MSC 117 Practical Experience I	0	0	3	1
MSC 141 Marine Projects	(33 Clock Hours)			1
PHO 110 Introduction to Photography	1	0	3	2
___ ___ Technical Elective	3	0	0	3
				21

THIRD QUARTER					
BIO 201	Aquarium Systems	1	2	0	2
CHM 101	Introduction to Chemistry	4	2	0	5
ENG 102	Composition	3	0	0	3
MAT 122	Technical Mathematics	5	0	0	5
MSC 102	Navigation II	2	2	0	3
MSC 118	Practical Experience II	0	0	3	1
SHI 102	Ocean Survey	(44-88 Clock Hours)			2
WLD 134	Marine Welding	1	0	3	2
					23
FOURTH QUARTER					
MAT 123	Technical Mathematics	5	0	0	5
MSC 108	Oceanographic Instrumentation	2	0	3	3
MSC 112	Biological Net Construction I	1	0	3	2
MSC 142	Marine Projects	(33 Clock Hours)			1
PHY 101	Physics: Properties of Matter	3	2	0	4
PME 101	Marine Engines I	1	0	3	2
PSY 217	Introduction to Psychology	3	0	0	3
					20
FIFTH QUARTER					
BIO 113	Environmental Measurements	1	0	3	2
CHM 109	Water Analysis I	1	0	3	2
EDP 106	Computer Applications	2	0	3	3
ENG 103	Report Writing	3	0	0	3
MSC 113	Biological Net Construction II	1	0	3	2
PME 102	Marine Engines II	1	0	3	2
SHI 103	Ocean Survey	(44-88 Clock Hours)			2
SOC 102	Principles of Sociology	3	0	0	3
					19
SIXTH QUARTER					
CHM 224	Water Analysis II	2	2	0	3
ENG 204	Oral Communication	3	0	0	3
GEO 101	Marine Geology	3	2	0	4
MAT 211	Basic Statistics	5	0	0	5
MSC 202	Data Processing I	1	0	3	2
MSC 143	Marine Projects	(33 Clock Hours)			1
PHY 102	Physics: Work, Energy, and Power	3	2	0	4
					22
SEVENTH QUARTER					
BIO 213	Marine Vertebrate Zoology	3	2	0	4
or BIO 129	Marine Animals of North Carolina	(4)	(0)	(0)	(4)
DFT 117	Drafting and Blueprint Reading	3	0	3	4
ELC 100	Electricity I	2	0	3	3
MSC 119	Practical Experience III	0	0	3	1
MSC 205	Data Processing II	1	0	3	2
SHI 104	Ocean Survey	(44-88 Clock Hours)			2
SOC 206	American Institutions	3	0	0	3
					19
EIGHTH QUARTER					
ELC 101	Electricity II	2	0	3	3
ELN 140	Introduction to Marine Electronics	4	2	0	5
MSC 114	Biological Sampling Methods	0	4	0	2
MSC 206	Estuarine Survey	2	4	3	5
SHI 105	Ocean Survey	(44-88 Clock Hours)			2
___ ___	Technical Elective	3	0	0	3
					20

See pages 75 to 115 for course descriptions.

MECHANICAL DRAFTING AND DESIGN TECHNOLOGY

The Mechanical Drafting and Design Technology curriculum prepares technicians for drafting and/or designing mechanical parts, mechanisms and mechanical systems.

Emphasis is placed on developing the student's ability to think and plan as well as on the development of drafting and design skills. Computer Aided Drafting (CAD) and conventional equipment will be used to produce drawings such as sectional views, subassemblies and major components of machinery and mechanical systems.

Coursework includes the study of technical drafting and design, materials, applied mechanics, mechanical systems, manufacturing methods, manufacturing processes, applied physics, technical mathematics, descriptive geometry, computer applications and written and oral communications.

Mechanical drafting and design technicians are employed in many types of manufacturing, fabrication, research and development and service industries.

MECHANICAL DRAFTING AND DESIGN TECHNOLOGY

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
DFT 101 Technical Drafting	3	0	9	6
ENG 101 Grammar	3	0	0	3
MAT 121 Technical Mathematics	5	0	0	5
MEC 121 Industrial Methods I	0	0	3	1
SOC 102 Principles of Sociology	3	0	0	3
	14	0	12	18
SECOND QUARTER				
DFT 102 Technical Drafting	3	0	9	6
ENG 102 Composition	3	0	0	3
MAT 122 Technical Mathematics	5	0	0	5
MEC 122 Industrial Methods II	0	0	3	1
PHY 101 Physics: Properties of Matter	3	2	0	4
	14	2	12	19
THIRD QUARTER				
DFT 103 Technical Drafting	3	0	9	6
ENG 103 Report Writing	3	0	0	3
MAT 123 Technical Mathematics	5	0	0	5
MEC 123 Industrial Methods III	0	0	3	1
PHY 102 Physics: Work, Energy, and Power	3	2	0	4
	14	2	12	19
FOURTH QUARTER				
DFT 201 Technical and Computer Aided Drafting	6	0	6	8
ENG 204 Oral Communication	3	0	0	3
PHY 103 Physics: Electricity	3	2	0	4
PSY 217 Introduction to Psychology	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	18	2	6	21
FIFTH QUARTER				
DFT 200 Dimensioning and Tolerancing	3	0	0	3
DFT 202 Technical and Computer Aided Drafting	6	0	6	8
MEC 209 Introduction to Metallurgy	3	2	0	4
PHY 106 Applied Mechanics	3	2	0	4
___ ___ Technical Elective	3	0	0	3
	15	4	6	22
SIXTH QUARTER				
DFT 203 Design and Computer Aided Drafting	6	0	6	8
MEC 205 Strength of Materials	3	2	0	4
MEC 216 Industrial Materials	5	0	0	5
MEC 235 Hydraulics and Pneumatics	3	0	3	4
	17	2	9	21

SPLIT COURSE - When DFT 204, Technical Drafting , and DFT 205, Computer Graphics, are completed, full credit will be given for DFT 201, Technical Drafting and Computer Graphics.

DFT 204 Technical Drafting	3	0	3	4
DFT 205 Computer Aided Drafting	3	0	3	4

See pages 75 to 115 for course descriptions.

MILITARY SCIENCE TECHNOLOGY

The Military Science Technology curriculum is designed to provide active duty personnel, National Guard, and reserve component service-members the opportunity to further their educational training to meet the academic requirements for retention and/or promotion within the military.

This curriculum provides course work in military history, leadership, supervision, management, international relations and communications skills.

Graduates of this program will have a better understanding of the nation's government and operation of the military; understanding the management and supervision of people within an organization; and have the ability to communicate orally as well as in writing. These skills and knowledge will enhance the military career opportunities for graduates.

Through a cooperative agreement with Central Carolina Community College and Cape Fear Community College, student applicants may take most of their course requirements locally for an Associate in Applied Science degree in Military Science Technology. Upon completion of the curriculum, the degree will be awarded from Central Carolina Community College.

The courses listed are the curriculum requirements of Central Carolina Community College. Courses listed with an asterisk will be offered by Cape Fear Community College which Central Carolina Community College has agreed to equate as being equal for tranfer.

Central Carolina Community College will make an effort to offer courses in the Wilmington area.

MILITARY SCIENCE TECHNOLOGY

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
ENG 101 Grammar	3	0	0	3
*Same as Cape Fear Community College				
MAT ___ Mathematics Elective	5	0	0	5
*MAT 110 Business Mathematics OR	(5)	(0)	(0)	(5)
*MAT 121 Technical Mathematics	(5)	(0)	(0)	(5)
MIL 101 Military History I	5	0	0	5
POL 104 International Relations	5	0	0	5
	18	0	0	18
SECOND QUARTER				
ENG 102 Composition	3	0	0	3
*Same as Cape Fear Community College				
MAT ___ Mathematics Elective	5	0	0	5
*MAT 130 Advanced Business Mathematics OR	(5)	(0)	(0)	(5)
*MAT 122 Technical Mathematics	(5)	(0)	(0)	(5)
MIL 102 Military History II	5	0	0	5
PSY 140 Principles of Counseling	5	0	0	5
	18	0	0	18
THIRD QUARTER				
ENG 104 Technical Writing	3	0	0	3
*ENG 103 Report Writing	(3)	(0)	(0)	(3)
ENG 204 Oral Communication	3	0	0	3
*Same as Cape Fear Community College				
MIL 103 Military History III	5	0	0	5
MIL 104 Leadership	3	0	0	3
	14	0	0	14
FOURTH QUARTER				
BUS 272 Principles of Supervision	4	0	0	4
*BUS 272 Principles of Supervision AND	(3)	(0)	(0)	(3)
*SOC 206 American Institutions	(3)	(0)	(0)	(3)
POL 102 Government: National	5	0	0	5
*PLS 101 American National Government	(5)	(0)	(0)	(5)
PSY 102 General Psychology	5	0	0	5
*PSY 217 Introduction to Psychology AND	(3)	(0)	(0)	(3)
*SOC 102 Principles of Sociology	(3)	(0)	(0)	(3)
SOC 220 Armed Forces and the Society	5	0	0	5
	19	0	0	19
FIFTH QUARTER				
BUS 235 Principles of Management	3	2	0	4
*BUS 235 Business Management				
EDP 103 Computer Fundamentals	3	2	0	4
*EDP 101 Computer Familiarization	(2)	(2)	(0)	(3)
MIL 201 Literature of Combat	3	0	0	3
POL 201 World and Regional Geography	5	0	0	5
	14	4	0	16
SIXTH QUARTER				
MIL 202 Military Science Elective	3	0	0	3
MIL 203 Military Science Elective	3	0	0	3
MIL 204 Military Science Elective	3	0	0	3
___ ___ Elective	3	0	0	3
*Any Cape Fear Community College Elective	(3)	(0)	(0)	(3)
	12	0	0	12

See pages 75 to 115 for course descriptions.

PARALEGAL TECHNOLOGY

The Paralegal Technology curriculum trains individuals to work under the general direction of lawyers, to relieve lawyers of routine matters, and to assist them in the conduct of more complicated and difficult tasks. The legal technician should be capable of doing independent legal work under the supervision of a lawyer, supervise secretaries in their work for the lawyer, and search out information and court facts for the lawyer. Training will include general subjects such as English, accounting and psychology, as well as specialized legal courses such as legal definitions, court systems, laws and techniques of investigation.

Graduates of the Paralegal Technology curriculum should be able to directly assist a lawyer or group of lawyers in most facets of law, but they must always work under the supervision of a lawyer. The legal technician will not be qualified to give legal advice, enter into courtroom procedure, or be involved in litigation except as an assistant to the lawyer. Paralegal graduates will be able to assist in work on probate matters, conducting investigations, searching public records, preparation of tax forms, serving and filing legal documents, bookkeeping, library research, and providing office management assistance. Employment opportunities are available in public and private law firms and with individual lawyers.

PARALEGAL TECHNOLOGY

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
BUS 102 Typewriting I	2	0	3	3
LEG 101 Introduction to Paralegalism	3	0	0	3
LEG 115 Commercial Law I	5	0	0	5
LEG 135 Legal Systems	5	0	0	5
MAT 110 Business Mathematics	5	0	0	5
	20	0	3	21
SECOND QUARTER				
BUS 103 Typewriting II	2	0	3	3
BUS 120 Accounting I	5	2	0	6
ENG 101 Grammar	3	0	0	3
LEG 116 Commercial Law II	5	0	0	5
MAT 130 Advanced Business Math	5	0	0	5
	20	2	3	22
THIRD QUARTER				
BUS 121 Accounting II	5	2	0	6
ENG 102 Composition	3	0	0	3
LEG 132 Legal Research/Bibliography	4	6	0	7
LEG 214 Property I	3	0	0	3
	15	8	0	19
FOURTH QUARTER				
LEG 113 Family Law	3	0	0	3
LEG 117 Torts and Litigation Preparation	3	0	0	3
LEG 215 Property II: Title Search	3	2	0	4
LEG 217 Elements of Criminal Law and Procedure	5	0	0	5
___ ___ Technical Elective	3	0	0	3
	17	2	0	18
FIFTH QUARTER				
BUS 128 Computerized Accounting - Electronic Spreadsheet	1	2	0	2
BUS 229 Taxes I	3	2	0	4
LEG 216 Property III: Loan Closings	1	2	0	2
LEG 224 Wills	3	2	0	4
LEG 230 Bankruptcy and Collection	3	0	0	3
	11	8	0	15
SIXTH QUARTER				
BUS 222 Word Processing	2	0	3	3
BUS 230 Taxes II	3	2	0	4
PSY 217 Introduction to Psychology	3	0	0	3
SOC 102 Principles of Sociology	3	0	0	3
___ ___ Technical Elective	3	0	0	3
	14	2	3	16
SEVENTH QUARTER				
ENG 204 Oral Communication	3	0	0	3
LEG 290 Paralegal Internship	0	(20 Co-op)		2
LEG 291 Paralegal Office Procedures	3	0	0	3
SOC 206 American Institutions	3	0	0	3
	9	0	0	11

See pages 75 to 115 for course descriptions.

TECHNICAL COURSE DESCRIPTIONS

ANT 105 - Introduction to Anthropology
This course is an introduction to the physical, archaeological, linguistic, and ethnological fields of anthropology; biological and cultural evaluation of man.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

ART 201 - Art History and Appreciation
This course is an introduction to the history of art and provides a survey of the general periods of art from prehistoric times through the Early Christian Era.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

ART 241 - Beginning Painting
This is a beginning course investigating a variety of media, techniques, and subjects.
Course Hours Per Week: Class 2, Lab 6. Quarter Hours Credit 5.
Prerequisite: None

BIO 101 - Human Anatomy and Physiology I
This course is a study of the organizational plan of the human body and the body systems concerned with motor activities, control and integration of functions, and reproduction. Laboratory experiences provide opportunities to see animal specimens illustrative of systems being studied.
Course Hours Per Week: Class 4, Lab 2. Quarter Hours Credit 5.
Prerequisite: None

BIO 103 - Anatomy and Physiology
This course is a study of the human body and the body systems involved in motor activities, control and integration of functions, and reproduction. Laboratory experiences provide opportunities to study the skeletal system and dissect an animal to study body structures. Some medical and anatomical terminology will be included.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

BIO 107 - Human Anatomy and Physiology II
This course is designed to familiarize the student with the changing body during normal growth and development, both physically and physiologically, as well as psychologically. The different phases of life, what effects society has during these phases, and how the body adjusts accordingly will be studied. The disease process will also be investigated to show how the body strives to maintain homeostasis during illness. The use and results or medical intervention will be covered during this study. Some of the more common diseases will be looked at, and the student will be encouraged throughout this course to apply the material studied to daily living experiences.
Course Hours Per Week: Class 4, Lab 2. Quarter Hours Credit 5.
Prerequisite: BIO 101

BIO 110 - General Biology
This course is an introduction to the concepts of biology. Emphasizes the modern view of man and other living organisms. Includes topics on the cell, energy, genetics. and ecology.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

BIO 113 - Environmental Measurements
This is a field course in which students will be involved in doing ecological surveys of the Cape Fear region. Collection methods and data compilation will be emphasized throughout the course.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

BIO 121 - Anatomy and Physiology I
Anatomy and Physiology I is the study of normal structures and functions of the human body. Elementary principles and concepts of chemistry, microbiology, and physics as they apply to the human body are included. The cardiovascular, respiratory and endocrine systems are studied in detail. Body fluids and electrolyte balance of the human body, including acid base balance, are included.
Course Hours Per Week: Class 4, Lab 4. Quarter Hours Credit 6.
Prerequisites: None

BIO 122 - Anatomy and Physiology II
Anatomy and Physiology II is a continuation of the study of the structure and and function of the human body. The lymphatic, urinary, reproductive, nervous, gastrointestional and musculoskeletal systems are studied.
Course Hours Per Week: Class 4, Lab 4. Quarter Hours Credit 6.
Prerequisite: BIO 121

BIO 123 - Microbiology
An introduction to the study of microrganisms and their relation to individual and community health. Groups of organisms studied are yeasts, molds, bacteria, viruses, protozoa, and helminths. Laboratory work involves handling cultures, differential stains, cultivation, and metabolic activities of representative organisms. Problems in sanitation are also considered.
Course Hours Per Week: Class 4, Lab 4. Quarter Hours Credit 6.
Prerequisite: BIO 122

BIO 129 - Marine Animals of North Carolina
This is a lecture course introducing students to marine organisms in North Carolina. Marine plankton, jellyfish, seashells, starfish, fishes, birds, and whales will be briefly studied. Preserved specimens will be used when available. Films and slides will also be utilized.
Course Hours Per Week: Class 4. Quarter Hours Credit 4.
Prerequisite: None

BIO 131 - Marine Biology
Marine and estuarine habitats and organisms will be examined in this course. An ecological approach to the study of organisms in the local marine communities will be taken.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

BIO 132 - Marine Invertebrate Zoology
Taxonomy and classification of marine invertebrate animals will be studied in this course. Preserved animals will be utilized for learning the taxonomic relationships between various marine invertebrates. Laboratory periods will be used to study some of the behavioral characteristics of selected animals.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

BIO 201 - Aquarium Systems
This is a laboratory oriented course emphasizing the proper techniques of setting up marine aquaria and maintaining healthy marine animals in a closed seawater system.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: None

BIO 213 - Marine Vertebrate Zoology
Identification, classification, and natural history of marine vertebrates are the studies in this course.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

BIO 215 - Microbiology
This course is an introduction to the biology of microorganisms and their impact on medicine, health, industry, agriculture, and the environment. The basic techniques needed to isolate, observe, identify, and control microorganisms will be covered.
Course Hours Per Week: Class 3, Lab 4. Quarter Hours Credit 5.
Prerequisite: BIO 110

BUS 100 - Typewriting
This is an introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. A minimum speed requirement is 20 gross words a minute with 5 errors allowed.
Course Hours Per Week: M. Lab 3. Quarter hours Credit 1.
Prerequisite: None

BUS 102 - Typewriting I
This course is an introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. The minimum speed requirement is 20 gross words a minute with 5 errors allowed.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

BUS 103 - Typewriting II
Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms. Minimum speed requirement is 30 gross words a minute with 5 errors allowed.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: BUS 102 or equivalent

BUS 104 - Typewriting III
This course places emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an expert typist, and producing mailable copies are stressed. The production units are tabulation, manuscript, correspondence, and business forms. The minimum speed requirement is 35 gross words a minute with 4 errors allowed.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: BUS 103 or equivalent

BUS 105 - Keyboarding
This course is an introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. The minimum speed requirement is 20 gross words a minute with 5 errors allowed.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisites: None

BUS 109 - Professional Development
Students in careers involving office automation need training in technical as well as non-technical areas. The purpose of this course is to provide students with the kinds of non-technical knowledge and skills desirable by employers. The course will consist of a variety of activities designed to promote professional demeanor in such areas as attitude, dress, speech, work habits, and inter-personal office communications and relationships.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

BUS 110 - Speedwriting and Transcription I
This course is intended for individuals who want to achieve marketable skills in stenography. The course is also designed for individuals who want to take notes more rapidly and accurately for semiprofessional or nonprofessional endeavors. Students will be given an opportunity to build speeds of 100 to 120 words a minute and take dictation accurately. Students will become acquainted with business activities in today's office and will become proficient in typing, spelling, and grammar.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

BUS 111 - Speedwriting and Transcription II
This course is designed to continue the quest for marketable skills in stenography. Students will be given an opportunity to enhance skills acquired in part one of speedwriting. This course basically consists of taking and transcribing mailable copy business documents.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 110

BUS 112 - Filing
This is a course in filing to instruct students to keep and to locate filed records. This will be accomplished by using a standard system of indexing papers to be filed.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

BUS 115 - Business Law I
This is an introductory course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments, and agencies.
Course Hours Per Week: Class 5. Quarter Hours Credit 5
Prerequisite: None

BUS 116 - Business Law II
This is a follow-up course to Business Law I with a more in-depth study of law covering such topics as bailments, sales, riskbearing, partnership, corporation, mortgages, and property rights.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: BUS 115

BUS 118 - Document Production
Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms. Minimum speed requirement is 30 gross words a minute with 5 errors allowed.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: BUS 105 or equivalent

BUS 120 - Accounting I
This first course in accounting covers the principles, techniques, and tools of accounting. The student is introduced to the mechanics of accounting. The process of accounting includes the collecting, summarizing, and analysis of financial information.
Course Hours Per Week: Class 5, Lab 2. Quarter Hours Credit 6.
Prerequisite: MAT 110, MAT 121 or MAT 115

BUS 121 - Accounting II
This course is a study of partnership and corporation accounting including a study of payrolls, federal and state taxes. Emphasis is placed on the recording, summarizing, and interpreting data for management controls rather than on bookkeeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems.
Course Hours Per Week: Class 5, Lab 2. Quarter Hours Credit 6.
Prerequisite: BUS 120

BUS 122 - Accounting III
This course is concerned with the design of the system of records, the preparation of reports based on recorded data, and the interpretation of the reports in a business firm. The use of accounting data and reports provides management with the information as to what has taken place in the business and how the information is used to make future business decisions.
Course Hours Per Week: Class 5, Lab 2. Quarter Hours Credit 6.
Prerequisite: BUS 121

BUS 123 - Business Finance I
This course explains the scope, principles, and social importance of business finance to the different types of business ownership in our economic systems. Through the analysis of the financial statements - the balance sheets and income statements - the sources and uses of funds may be obtained for any form of business.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 121

BUS 124 - Business Finance II
This course explains the scope, principles, and social importance of business finance to the different types of business ownership in our economic systems. Through the analysis of the financial statements - the balance sheets and income statements - the sources and uses of funds may be obtained for any form of business. Financial statements are used by management as the basis for planning operations, including procurement of adequate financing, and as a means of exercising control over the financial position of the business and the efficient and profitable use of assets.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 123

BUS 125 - Accounting IV
This course examines the basic analytic tools used by a firm's management to plan, staff, finance, and control operations. Interpretation and determination of various quantitative and financial statistics is emphasized.
Course Hours Per Week: Class 5, Lab 2. Quarter Hours Credit 6.
Prerequisite: BUS 122

BUS 128 - Computerized Accounting - Electronic Spreadsheet
This is a course in computer record keeping. The content of the course will include the general ledger and the preparation of financial statements, data entry and updating of accounts receivable and accounts payable, inventory purchase cost and control, and sales and invoice preparation.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisites: BUS 120, EDP 101

BUS 130 - Spreadsheet Applications I
An introduction to the use and application of microcomputer spreadsheet software to solve various business and financial problems. The student will learn how to create, modify, save, retrieve, and print spreadsheets; enter labels, values, and formulas; copy, format, erase, move, and protect cells; and use intrinsic spreadsheet functions. Student exercise will be drawn from variety of business and financial areas.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: None

BUS 183 - Terminology and Vocabulary
This is a thorough course in word study appropriate for use in business, technical, and professional offices. It emphasizes spelling and meaning of words, with an in-depth study of word stems, prefixes, and suffixes.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

BUS 205 - Advanced Typewriting I
In this course, emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and in typing projects that closely approximate the work in business offices. These projects include review of letter form, methods of duplicating, statistical tabulation, and the typing of reports, manuscripts, and legal documents. The minimum speed requirement is 40 gross words a minute with 3 errors.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: BUS 104

BUS 211 Spreadsheet Applications II
A continuation of BUS 210 to provide training in the advanced features of modern spreadsheets including macros, graphics, database functions, and importing and exporting data to and from other application software. More complex spreadsheet models will be presented.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: BUS 130

BUS 213 - Office Procedures
Dictaphones, typewriters, electronic calculators, copying machines, and similar modern office equipment are utilized by students to efficiently produce quality office documents such as letters, memos, payrolls, invoices, manuscripts, and statistical charts in a simulated office situation.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: BUS 103

BUS 217 - Speedwriting
An introduction to an alphabetic shorthand system in which sounds are represented by letters of the alphabet and common punctuation marks. Emphasis is placed on the theory of non-shorthand elements of dictation and transcription.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: None

BUS 219 - Office Supervision
Office supervision is a course designed to equip students with managerial skills and knowledge. Students will be given an opportunity to acquire the kinds of knowledge and skills they need to function more productively in an automated office environment. Included in the course of study will be learning modules pertaining to: organizational structures, leadership principles, time and stress management, listening skills, and verbal and non-verbal communications.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

BUS 220 - Intermediate Accounting I
This course is a review of the accounting information processing system, the statement of income, and statement of cash flows. The course includes the study of basic interest concepts of future and present values, cash and receivables, and the measurement of cost of goods sold and merchandise inventory.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 122

BUS 221 - Intermediate Accounting II
The second quarter in intermediate accounting includes the study of property, plant, and equipment and the concepts and methods of depreciation. This is a study of intangible assets, income recognition, short-term and long-term debts by the borrower and the lender. Also, the formation of a corporation and the buying and selling of securities is included in the course.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 220

BUS 222 - Word Processing
This course introduces the student to word processing procedures and equipment. It is designed to familiarize students with the concept of word processing and the input and output equipment used to transform ideas and information into readable forms of communication.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: BUS 100 or BUS 102 or BUS 105, EDP 101

BUS 223 - Word Processing II
Emphasis on advanced document preparation techniques. Topics include all aspects of major reports and papers—indexing, tables of contents, and footnotes; document merging and assembly, including techniques for handling forms, labels, and envelopes; building and using macros; sorting tables and lists; learning to use the package as an integrated software tool for spreadsheet applications, database management, and graphics. Students will become familiar enough with the concepts of word processing to transfer these basic skills to other word processing software packages.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: BUS 222

BUS 225 - Cost Accounting I
The first course in cost accounting includes the study of cost concepts, cost behavior, job order costing, cost estimation, and allocating overhead costs and variance analysis. The course includes a study of weighted-average and first-in first-out costing, material and lost units costing, and joint product and by-product costing.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 122

BUS 226 - Cost Accounting II
This course is concerned with standard costs for material and labor, standard costs for factory overhead, the budgeting process, cash budgets, forecasted statements, cost-volume-profit analysis, and the concept of variable costing.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 225

BUS 229 - Taxes I
This course is the application of federal and state taxes to various businesses and business conditions. It is a study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise and inheritance.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

BUS 230 - Taxes II
This course is a continuation of the study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise, and inheritance taxes.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 229

BUS 232 - Sales Development
This course is a study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations is required.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

BUS 235 - Business Management
This course explains the principles of business management, including an overview of the major functions of management, such as planning, staffing, controlling, directing, and financing.
Course Hours Per WeeK Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

BUS 239 - Marketing
This course presents the marketing structure within the framework of the U.S. economic system. The course includes the movement of goods from producer to consumer through channels of distribution, pricing strategies, consumer behavior and market segmentation.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

BUS 240 - Machine Transcription I
Students develop skill typing mailable letter, memoranda, and manuscripts directly from recorded disks. Emphasis is placed on vocabulary development.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: BUS 105

BUS 241 - Machine Transcription II - Legal
Designed to afford the student an intensive overview of the mechanics of machine transcription, with special emphasis on production of copy for all types of legal documents, legal letters, and report writing.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: BUS 240

BUS 242 - Machine Transcription III - Medical
Beginning course designed to acquaint the student with the purposes of medical terminology and to build a basic foundation of medical vocabulary through the introduction of machine transcription of medical case histories and physical examinations covering various medical specialities. Integrated with this is a comprehensive coverage of medical prefixes, suffixes, and word stems, and classifications of medical operations.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: BUS 240

BUS 272 - Principles of Supervision
The student is introduced to the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associates. Major emphasis is placed on the role of the supervisor in securing an effective work force. Methods of supervision are stressed.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CHM 101 - Introduction to Chemistry
This course offers a basic introduction to elements, compounds, mixtures, symbols, formulas, and weight relations in reactions and solutions. Students will be introduced to basic laboratory equipment and techniques.
Course Hours Per Week: Class 4, Lab 2. Quarter Hours Credit 5.
Prerequisite: MAT 121

CHM 109 - Water Analysis I
This is a course in the practical analysis of water with emphasis on marine-oriented techniques and procedures.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: CHM 101 or CHM 118

CHM 114 - Basic Chemical Concepts I
This is the first course of a two-quarter sequence in which the basic fundamentals of chemistry are introduced. Topics to be covered include: measurements; properties of matter; elements, compounds, and mixtures; ions and compound formulas; moles; reactions and weight relations; solutions; and oxidation-reduction reactions. The laboratory sessions stress routine apparatus and techniques in conjunction with lecture material.
Course Hours Per Week: Class 5, M. Lab 6. Quarter Hours Credit 7.
Prerequisite: None

CHM 115 - Basic Chemical Concepts II
This is the second course of a two-quarter sequence in which the basic fundamentals of chemistry are introduced. Topics to be covered include: electrochemistry, gases, solubility, and pH. The laboratory sessions stress routine apparatus and techniques in conjunction with lecture material. A special unit on laboratory hazards and safety is included.
Course Hours Per Week: Class 5, M. Lab 6. Quarter Hours Credit 7.
Prerequisite: CHM 114

CHM 116 - Descriptive Chemistry
This is a course in which specific elements, their properties, compounds, sources, and uses are discussed. In the laboratory, preparation, detection and reactions of selected groups of elements are explored. The use of spectrophotometers is introduced. In conjunction with ENG 103, the student will prepare a written report on an assigned element.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: CHM 115

CHM 117 - Unit Processes
This is a laboratory course in which the student sets up and carries out such procedures as distillation, reflux, chromatography (paper, thin layer, column, and gas-liquid [GLC], high-performance liquid [HPLC]), extraction, ion exchange, and spectroscopy (infrared, ultraviolet visible, and atomic absorption).
Course Hours Per Week: Class 1, M. Lab 18. Quarter Hours Credit 7.
Prerequisites: CHM 116, CHM 230

CHM 118 - Basic Chemistry
This course has been designed to acquaint the student with some of the basic chemical concepts. Discussions of hazardous materials will be included.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: MAT 121

CHM 150 - Industrial Operations
This is a survey course in which selected examples of process equipment used in the chemical industry are discussed. The students are introduced to and practice calculations necessary in the design and utilization of such equipment.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisites: CHM 116, CHM 230

CHM 224 - Water Analysis II
This course a continuation of Water Analysis I as a course in the practical analysis of water with emphasis on marine-oriented techniques and procedures.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: CHM 101 or CHM 118

CHM 230 - Organic Chemistry I
This is a survey course in which the nomenclature and properties of organic compounds are introduced. An introduction to infrared spectra is included.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: CHM 115

CHM 231 - Organic Chemistry II
This is a continuation of the Organic Chemistry series in which organic reactions and syntheses are discussed and carried out in the laboratory. The students analyze results with such techniques as infrared (IR) spectroscopy and gas chromatography (GC), and high performance liquid chromatography (HPLC).
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisites: CHM 230, CHM 117

CHM 232 - Organic Chemistry III
This is a continuation of the Organic Chemistry series in which the chemistry of carbonyl compounds is stressed. In the laboratory, individual student projects are carried out.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisite: CHM 231

CHM 233 - Biochemical Concepts
This course is a continuation of organic chemistry, dealing with the structure, properties, and metabolism of biomolecules such as lipids, carbohydrates, proteins, and enzymes. Production, formulation, and testing of food additives and pharmaceuticals will be covered.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: CHM 232

CHM 243 - Industrial Analysis I (Qualitative)
This is a laboratory course in which the students are expected to detect and report the presence of unknown cations and anions in prepared test solutions. (Qualitative Analysis)
Course Hours Per Week: Class 1, M. Lab 6. Quarter Hours Credit 3.
Prerequisite: CHM 117

CHM 244 - Industrial Analysis II (Quantitative)
This is a laboratory course in which routine quantitative analyses are carried out. The techniques of gravimetry, titration, electroanalysis, spectroscopy (UV-VIS, AA, AE, colorimetry), chromatography (TLC, GC), and specific ion meters are practiced. Calibrations are stressed, and statistical analyses of results are practiced.
Course Hours Per Week: Class 1, M. Lab 9. Quarter Hours Credit 4.
Prerequisite: CHM 243

CHM 245 - Industrial Analysis III (Quantitative)
This is a course in which the sources, uses, analyses, and treatments of water are discussed. In the laboratory, quantitative analysis, begun in the sixth quarter (CHM 244), is continued with emphasis on water analyses.
Course Hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Prerequisite: CHM 244

CJC 101 - Introduction to Criminal Justice
This is a general course designed to introduce the student to the historical, philosophical and contemporary views in the criminal justice system. This course also includes a study of the local, state and federal criminal justice agencies, their jurisdiction, organization, purpose, and objective.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 102 - Introduction to Criminology
This is a general course designed to familiarize the student with contemporary and historical theories of criminal behavior. An overview of social factors dealing with criminal behavior will also be given.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 103 - Introduction to Criminal Investigation
This is a study of the elements of investigation from discovery through presentation in court. The student is introduced to preliminary investigation, collection and preservation of evidence, interviews and interrogation, descriptions of persons and property, sources of information, investigative report writing and case presentation.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 104 - Patrol Procedure and Traffic Law Enforcement
This course is a study of patrol techniques used by law enforcement agencies. Emphasis is placed on motor vehicle laws most frequently violated, traffic accident reports and overall traffic enforcement objectives. Also examined are police operational procedures used in answering calls.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 105 - Firearms
This is a study to help the student develop an understanding, use and respect for various types of firearms. Range practice will be given in the use of rifles, shotguns, and pistols with a special effort made to develop proficiency in the use of the service revolver. Instruction will be given in non-lethal weapons such as tear gas, and defensive tactics used in the handling of arrested persons.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 108 - Research and Planning in Criminal Justice
This course allows the student to conduct research and planning under the direct supervision of a criminal justice instructor.
Course Hours Per Week: Class 1, M. Lab 6. Quarter Hours Credit 3.
Prerequisite: Permission of the instructor.

CJC 115 - Criminal Law
This course is a study of North Carolina substantive criminal law. The elements of criminal laws, legal definitions, and rules of evidence are examined.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

CJC 118 - Defensive Tactics
This is a course designed to provide the student with basic self-defense skills. Instruction will include preliminary exercises to develop balance, movement, and leverage as used in jujitsu.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

CJC 140 - Fingerprint Identification
This course is a survey of the use of fingerprints in criminal investigations. Examination, comparison, and classification of fingerprints is included. The Henry System of classification is taught with additional modifications and F.B.I. extensions.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

CJC 141 - Handwriting Identification
This is an introduction to the fundamentals of handwriting identification. An analysis of standard and deviant letters is studied in comparing questioned writings.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

CJC 203 - Forensic Photography
A survey of the use of photography in criminal investigation is examined in this course. The use of photographic equipment and darkroom procedures are included. Simulated crime scene exhibits are prepared for moot court testimony.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 205 - Scientific Evidence
This course examines the admissibility of evidence in a court of law. Emphasis is given to the types of scientific evidence which is within the jurisdiction of the courts.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 208 - Arson Investigation
This is a study of the techniques used to investigate arson cases. It includes investigative techniques, crime scene investigation, and laws applicable to unlawful burning.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 210 - Criminal Investigation
This course is a study of the fundamentals of criminal investigation. Specific offenses are examined such as: burglary, robbery, homicide, and larceny.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 211 - Introduction to Criminalistics
This is a general survey of the methods and techniques used in modern scientific investigation of crime, with emphasis on the practical use of these methods by the students. Laboratory techniques will be demonstrated and the student will participate in actual use of scientific equipment.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: CJC 210

CJC 215 - Law Enforcement Training
This course is designed to provide the student with the skills and knowledge necessary to perform those tasks essential to function in law enforcement. The course consists of 376 hours of instruction in the following topic areas:

(1)	Course Orientation	8 Hours
(2)	Laws of Arrest, Search, and Seizure	16 Hours
(3)	Mechanics of Arrest:	
	Arrest Procedures	8 Hours
	Vehicle Stops	6 Hours
	Custody Procedures	2 Hours
	Processing, Fingerprinting, and Photographing Arrestee	4 Hours
(4)	Defensive Tactics	16 Hours
(5)	Firearms	48 Hours
(6)	Law Enforcement Driver Training	16 Hours
(7)	Constitutional Law	4 Hours
(8)	Law Enforcement Communications and Information Systems	4 Hours
(9)	Elements of Criminal Law	24 Hours
(10)	Juvenile Laws and Procedures	8 Hours
(11)	Emergency Medical Services	24 Hours
(12)	Patrol Techniques	16 Hours
(13)	Crime Prevention Techniques	4 Hours
(14)	Field Notetaking and Report Writing	12 Hours
(15)	Crisis Management	10 Hours
(16)	Special Population	12 Hours
(17)	Civil Disorders	12 Hours
(18)	Criminal Investigation	28 Hours
(19)	Interviews: Field and In-Custody	8 Hours
(20)	Controlled Substances	8 Hours
(21)	ABC Laws and Procedures	4 Hours
(22)	Electrical and Hazardous Materials Emergencies	6 Hours
(23)	Motor Vehicle Laws	20 Hours
(24)	Techniques of Traffic Law Enforcement	6 Hours
(25)	Preparing for Court and Testifying in Court	12 Hours
(26)	Dealing with Victims and the Public	8 Hours
(27)	Testing and Examination	9 Hours
*(28)	Review	6 Hours
*(29)	Testing	7 Hours

*Not mandated by Title 12 of the Administrative Code, but is required by Cape Fear Community College.

Course Hours Per Week: Class 13, M. Lab 21. Quarter Hours Credit 20.
Prerequisite: None

CJC 216 - Police Officer Training
This course consists of twenty (20) hours of Traffic Accident Investigation and two (2) hours of review. Students who wish to take the State examination for police officer must successfully complete CJC 215, CJC 216 and CJC 218.
Course Hours Per Week: Class 2. Quarter Hours Credit 2.
Prerequisite: None

CJC 217 - Deputy Sheriff Training
The topics in this course consist of the Civil Process and Custody Procedures. Student will receive twenty-four (24) hours of instruction on the Civil Process eight (8) hours on Custody Procedures, and one (1) hour of review. Students who want to take the State examination for deputy sheriff must successfully complete CJC 215, CJC 217 and CJC 218.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: None

CJC 218 - Physical Training
This course consists of forty-four (44) hours of training in nutrition and physical fitness. It is designed to engage the Basic Law Enforcement Training student in a physical fitness program that will improve endurance, strength, and agility required for the performance of law enforcement duties.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

CJC 220 - Law Enforcement Organization and Management
Included in this course is an examination of the principles of organizational structure within police agencies. The duties and responsibilities of the polic administrative staff will be examined. Recruitment, training, and discipline will be presented as part of the course study.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 222 - Crime Scene Investigation
This is a course which emphasizes collecting physical evidence at the crime scene. Topics included in this course are identification of physical evidence, the care of physical evidence, and the various types of evidence.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 224 - Industrial Security
This course is a general survey of the methods and techniques utilized in theft prevention. Primary emphasis will be placed on alarm systems used in industry.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 230 - Contemporary Issues in Criminal Justice
This course is a study of controversial issues affecting the criminal justice system. Topics may include use of deadly force, civil liability, police discretion, politics, and unionism.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CJC 240 - Firearms Identification
This course is an introduction to the fundamentals of bullet and tool mark comparisons. The comparison microscope is used by the students to examine the bullets and tool marks for individual and class characteristics.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

DFT 100 - Technical Drafting
The field of drafting is introduced. The student learns the elementary practices and principles employed by draftsmen. This knowledge is put to use by reading actual blueprints. Orthographic, pictorial sketching, standards and practices of dimensioning are included for communication from technician to machinist or other artisan.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

DFT 101 - Technical Drafting
The field of drafting is introduced. The student learns the elementary practices and principles employed by draftsmen. This knowledge is put to use by reading actual blueprints. Orthographic, pictorial sketching, standards and practices of dimensioning are included for communication from technician to machinist or other artisan. This course covers more material and requires more drawings to be graded than DFT 100.
Course hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Prerequisite: None

DFT 102 - Technical Drafting
This course covers material from the application of orthographic projection principles to the more complex drafting problems. Primary and secondary auxiliary views, simple and successive revolutions, and all types of sections and conventions will be studied.
Course Hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Prerequisite: DFT 101

DFT 103 - Technical Drafting
This course covers the graphic symbols for electrical and electronic diagrams, use and application of welding symbols, principles and methods of pipe drafting procedures of drawing and projecting axonometric, oblique, and perspective drawings. Emphasis will be placed on practical application.
Course Hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Prerequisite: DFT 102

DFT 117 - Drafting and Blueprint Reading
The field of drafting is introduced. The student learns the elementary practices and principles employed by draftsmen. This knowledge is put to use reading actual blueprints. Orthographic, pictorial sketching, standards and practices of dimensioning are included for communication from technician to machinist or other artisan.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisite: None

DFT 200 - Dimensioning and Tolerancing
Standard drafting practices per ANSI Y14.5 Includes general dimensioning; general applications of tolerances and limits; tolerance of position and form; and advantages of true position tolerancing.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: DFT 102 or consent of the Instructor

DFT 201 - Technical and ComputerAided Drafting
Topographical drawing and mapping will be introduced. Plat plans, contours and profiles will be drawn. Use and care of the transit will be studied in the field. Dimensioning practices for "details" and working drawing, as approved b the American Standards Association will also be included. Screws, screw threads, springs, keys, and rivets will also be included in the course of study computer graphics will be used to give drafting students a basic working knowledge of hardware and solftware interaction, and how these basics may be applied to computer graphics in general.
Course Hours Per Week: Class 6, M. Lab 6. Quarter Hours Credit 8.
Prerequisite: DFT 103

DFT 202 - Technical and ComputerAided Drafting
Basic mechanisms of motion transfer, gears, and cams will be studied and drawn with emphasis on methods of specifying, calculating, dimensions, and delineating. This course covers intersection and developments along with their practical solution. Where applicable, model solutions accompany the problems. Advanced techniques in Computer Aided Drafting (CAD) will also be included. Emphasis will be placed on the integration of a prior knowledge of drafting standards into computer graphic commands.
Course Hours Per Week: Class 6, M. Lab 6. Quarter Hours Credit 8.
Prerequisite: DFT 201

DFT 203 - Design and ComputerAided Drafting
Research to solve a problem in design will be implemented by consulting various manuals, periodicals, and through laboratory experiments. Preliminary design sketches, layout drawings, detail drawings, assembly and sub-assembly drawings, and specifications are required as a part of the problem. Computer graphics will be continued with an emphasis on design.
Course Hours Per Week: Class 6, M. Lab 6. Quarter Hours Credit 8.
Prerequisite: DFT 202

DFT 204 - Technical Drafting
Topographical drawing and mapping will be introduced. Plat plans, contours and profiles will be drawn. Use and care of the transit will be studied in the field. Dimensioning practices for "details" and working drawing, as approved by the American Standards Association will also be included. Screws, screw threads, springs keys, and rivets will also be included in the course of study.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisite: DFT 103 or consent of the Instructor

DFT 205 - Computer Aided Drafting
This course is an introduction to Computer Aided Drafting and Design systems. It will prepare students to operate the systems and understand the applications of computer graphics to industry standards. Students will learn to use interactive computer related information on a magnetic disc and produce commercial quality copies using a computer driven plotter.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisite: DFT 103 or consent of the Instructor

DMK 163 - Fundamentals of Real Estate
This course consists of instruction in fundamental real estate principles and practices, including real estate law, financing, brokerage, closing, valuation, management, and taxation. Also included is instruction on residential building construction, land use, the real estate market and the North Carolina Real Estate License Law and Rules/Regulations of the North Carolina Real Estate Licensing Board.
Course Hours Per Week: Class 6. Quarter Hours Credit 6.
Prerequisite: None

DMK 164 - Real Estate Law
This course consists of advanced level instruction in real property ownership and interests, transfer of title to real property, land use controls, real estate brokerage and the law of agency, real estate contracts, landlord and tenant law, mortgages/deeds of trust, property insurance, federal income taxation of real estate, the N.C. Real Estate License Law, Rules/Regulations of the N.C. Real Estate Licensing Board, and the Licensing Board's "Trust Account Guidelines."
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: DMK 163 or an equivalent course approved by the North Carolina Real Estate Licensing Board

DMK 209 - Real Estate Finance
This course consists of advanced level instruction on the major aspects of financing real estate transactions, including sources of mortgage funds, the secondary mortgage market, financing instruments, types of mortgage loans, underwriting mortgage loans, consumer legislation affecting real estate financing, real property valuation, closing real estate sales transactions, and finance mathematics.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: DMK 163 or an equivalent course approved by the North Carolina Real Estate Licensing Board

DMK 271 - Real Estate Brokerage Operations
This course consists of basic instruction in the various aspects of real estate brokerage operations, including establishing a brokerage firm, management concepts and practices, personnel and training, marketing operations, records and bookkeeping systems (including trust account bookkeeping), and financial operations.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: DMK 163 or an equivalent course approved by the North Carolina Real Estate Licensing Board

DMK 292 - Real Estate Appraisal
This course studies the functions of the real estate appraisers; planning, and the process of appraisal, site evaluation, building materials, and equipment. The three methods of appraising property are considered: Income Approach, Market Data Approach, and the Cost Approach, including depreciation and renovation.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

DMK 296 - Property Management
This course studies the nature of property management, types of property, lease preparation, property maintenance and protection of property (Insurance). Other topics include accounting and budgeting in property management, tenant selection, and legal and professional requirements of a property manager.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

ECO 102 - Economics I
This course introduces Business Administration, Secretarial, and General Office students to the rudiments of economics. The course emphasizes supply and deman analysis, market equilibrium and cost/revenue analysis from the points of view of consumers and the individual firm.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

ECO 104 - Economics II
This course extends the basics acquired in Economics I into coverage of the economy of an entire country. The course emphasizes national economic measurements, growth cycles, and government policies. Economics examines the monetarist and neo-keynesian debates of economic policy.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: ECO 102

ECO 108 - Consumer Economics
Students will study the efficient use of family resources with emphasis placed upon money management in the purchasing of shelter, food, transportation, clothing, and insurance. Included will be a study of the productive use of credit and retail sales.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

ECO 110 - Macroecomonics
This course examines the general workings of a national economy. In learning how the economy functions it will be defined by models. Various methods of measuring economic performance are utilized within the context of the models. Finally, the effects and uses of economic policies (monetary and fiscal) are examined.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

EDP 101 - Computer Familiarization
This is an introductory course designed to give the novice a basic understanding of data processing and information management in today's computer environment. It deals with the currently most used forms of data processing, basic vocabular tools, and an understanding of the computer as a part of our society.
Course Hours Per Week: Class 2 , Lab 2. Quarter Hours Credit 3.
Prerequisite: None

EDP 101-A - Computer Familiarization
This course is designed to introduce the student to the basic concepts of data processing systems. The course will primarily deal with different computer hardwares, softwares and languages that are used by many industries.
Course Hours Per Week: Class 1. Quarter Hours Credit 1.
Prerequisite: None

EDP 101-B - Computer Familiarization
The major portion of this class will deal with hands-on experience and is designed to develop the student's understanding of data processing systems. Students will be working with different application's softwares in the classroom that are currently being used by many industries.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: None

EDP 106 - Computer Applications
This is an introductory course in the three major usages of the personal computer. The student will be given an insight into MS-DOS, spreadsheet, data base, and word processing operations. Emphasis is placed on information about the processes and not on the mastery of the diciplines.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

EDP 199 - Database Processing I
An introduction to programmable database management systems. Topics include comparison and contrasting of types of databases (hierarchical, relational, and network), data dictionaries, query languages, report generators, and integrated programming languages. The course will include a survey of major microcomputer and mainframe database systems. Hands-on activities with a programmable database management system will be included.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: EDP 101

EDP 200 - Database Processing II
A continuation of EDP 199 which provides additional instruction and practice with a programmable database system.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: EDP 199

EDP 201 - BASIC Language Programming I
This introductory course of programming allows the student to identify and be able to work with an IBM Personal Computer, the processes of developing program for this computer through the use of flow charts, and the BASIC language. The emphasis is placed on obtaining computational results without developing style of production or theory of programming.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

EDP 208 - Desktop Publishing
An introduction to desktop publishing using a major commercial desktop publishing software package running on a microcomputer. Basic principles of commercial graphics and page layout as well as software operation will be covered.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: EDP 101 or BUS 222

EDP 210 - BASIC Language Programming II
This course provides the student who is already proficient in the fundamental techniques of BASIC programming with extended command functions and advanced operations. Included are internal and external data files, control formatting, multi-dimensional arrays, advanced string variables, subroutines, and an exposure to the Assembler Language.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: EDP 201

EDP 250 - BASIC Business Programming
An introductory course in BASIC programming designed for the business student with a knowledge of accounting. The BASIC language is used to program typical business problems. BASIC statements including PRINT, READ, LET, INPUT, GO TO, IF/THEN, and FOR/NEXT are introduced and used in programming exercises.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: BUS 120

EDP 255 - Data Base Management
This course will cover the learning principles and techniques about databases: What they are, how they work, and what they could be used for. The database provides a way of finding, editing, and creating information quickly and easily on a chosen reference point.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: EDP 101

EDU 205 - Teaching Methods
This course is designed to teach the skill necessary in preparing lesson plans and using various methods of instructing other persons.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: None

ELC 100 - Electricity I
This course is an introduction to basic theories and principles of electricity. Basic electrical units, Ohm's Law, symbols, power sources and electrical measuring instruments in coordination with basic DC series and parallel resistive circuits will be covered. Practical applications will be stressed. This course is not transferable to the Electronics Engineering or Instrumentation Technology curriculums.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

ELC 101 - Electricity II
This course is a continuation of ELC 100. It will cover an introduction to magnetism, inductance, alternating current, theory, capacitance, reactance phase relationships, AC power and transformers, generators, alternators, and distribution system. Voltage and current regulation along with practical applications will be stressed. This course is not transferable to the Electronics Engineering or Instrumentation Technology curriculums.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: ELC 107 or ELC 100 or proficiency test

ELC 107 - Electricity I
This fundamental course is an introduction to basic theories and principles of electricity. It includes electrical symbols, electrostatics, Ohm's Law, direct current (DC) circuits, power, power sources (DC), circuit theorems, electrical measuring devices, and an introduction to electromagnetism, capacitance and inductance. Practical applications are highly stressed.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Pre/Corequisite: MAT 121

ELC 108 - Electricity II
This course is a continuation of ELC 107. It is an introduction to alternating current theory, sine and pulse wave analysis, inductance, capacitance, reactance, phase relationships, AC power, and transformers. Simple power distribution systems are studied.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: ELC 107
Pre/Corequisite: MAT 122

ELC 109 - Electricity III
This course is a continuation of ELC 108. Topics studied will include RLC circuits, resonance and filters. The practical applications of these concepts are highly stressed.
Course Hours Per week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: ELC 108
Pre/Corequisite: MAT 123

ELN 102 - Electronic Fabrication Techniques
This is a basic course to introduce electronic circuit construction and wiring practices. Topics included are, Soldering/desoldering techniques, component layout, and the interpretation of schematic wiring diagrams. The course is structured to increase the students' manipulative skills using common electrical handtools.
Course Hours Per Week: Lab 2. Quarter Hours Credit 1.
Prerequisite: None

ELN 106 - Electronics I
This fundamental course covers electronic symbols, schematic diagrams, and the functional application of test equipment typically used by technicians. It further introduces the student to the basics of semiconductor physics and two-terminal semiconductor devices.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Pre/Corequisites: ELC 107, MAT 121

ELN 107 - Electronics II
This course is a continuation of ELN 106. It covers the theory and application of two-terminal semiconductor devices, and bipolar transistor circuits, including biasing methods, small-signal analysis, interstage coupling and feedback.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: ELN 106
Pre/Corequisites: ELC 108, MAT 122

ELN 108 - Electronics III
This course is a continuation of ELN 107. Topics covered are power supplies and regulators, theory and application of Junction and Mos field effect transistors multistage amplifiers, feedback methods, oscillators, multistage circuitry, power amplifiers and feedback.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: ELN 107
Pre/Corequisites: ELC 109, MAT 123

ELN 109 - Electronics IV
This course is a continuation of ELN 108. Topics include unijunction and multijunction switching devices, linear integrated circuits, and optoelectronic devices.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisites: ELC 109, ELN 108, MAT 123

ELN 110 - Introduction to Digital Electronics
This course deals with Boolean Algebra as applied to digital logic and control devices. Principles of Boolean Algebra, Karnaugh mapping, and various number systems will be examined. Practical circuits using industry standard components will be constructed during laboratory sessions.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: ELN 108

ELN 140 - Introduction to Marine Electronics
This course is a continuation of ELC 101 emphasizing marine related applications. The course of study includes an introduction to radar, sonar, communications, sound and electromagnetic wave propagation. Common types of equipment, circuits, testing and measuring devices are studied. In all areas of study, practical applications are stressed.
Course Hours Per Week: Class 4, Lab 2. Quarter Hours Credit 5.
Pre/Corequisite: ELC 101

ELN 202 - Communication Electronics
This course will present basic laws, regulations and operating procedures governing communications in the United States. An in-depth study of solid state device applications in various communication circuits will be conducted. Theory of and special uses for vacuum tubes will be presented.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: ELN 109

ELN 220 - Electronic Systems
This course will cover the operating concepts of numerous electronic systems. Modules or blocks of various circuits, previously studied, are arranged in various combinations to produce complex electronic systems. Each system will be explained and reduced to functions and then to block diagrams. AM, FM and Single Sideband transmitters and receivers, multiplexing, TV transmitters and receivers, pulse-modulated systems, telemetry, navigational systems, sonar and radar will be considered.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisite: ELN 202

ELN 224 - Measurement and Control I
This course offers a familiarization of instruments utilized in industrial applications. Theory and applications of pressure gauges, vacuum gauges, manometers, dead weight testers and current calibrators will be studied. Associated hardware and software as applied in industrial applications will also be presented.
Course Hours Per Week: Class 2, M. Lab 9. Quarter Hours Credit 5.
Prerequisites: ELN 109, ELN 110, PHY 102
Pre/Corequisite: PHY 105

ELN 225 - Measurement and Control II
This course is a study of control theory utilizing electronic and pneumatic instruments. Control loops, selectronic, and pneumatic will be studied, constructed, and calibrated for actual "in-service" conditions.
Course Hours Per Week: Class 2, M. Lab 9. Quarter Hours Credit 5.
Prerequisite: ELN 224

ELN 226 - Measurement and Control III
This course is a continuation of ELN 225, Measurement and Control II. Emphasis will be placed on current techniques in industrial instrumentation, instrument installations and environmental conditions affecting industrial applications of automated systems. Environmental control utilizing electronic and pneumatic systems will be studied.
Course Hours Per Week: Class 2, M. Lab 9. Quarter Hours Credit 5.
Prerequisite: ELN 225

ELN 232 - Electronic Projects, Basic Wiring
This course will introduce wiring and troubleshooting techniques to the student. The student will practice wiring and testing basic electronic circuits. Project selection will be approved by the instructor.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisites: ELN 109, ELC 109

ELN 233 - Analytic Electronic Troubleshooting
This course is designed to follow ELN 232. It is an advanced study of analytic techniques for troubleshooting complex electronic systems.
Course Hours Per Week: M. Lab 6. Quarter Hours Credit 2.
Prerequisite: ELN 232

ELN 234 - Electronic System Design and Construction
This course emphasizes the design, construction and testing of a functional electronic system. Printed circuit design is emphasized and advanced troubleshooting techniques are employed in a design project. Project selection to be approved by the instructor.
Course Hours Per Week: M. Lab 6. Quarter Hours Credit 2.
Prerequisite: ELN 233

ELN 236 - Industrial Field Trips
This course will consist of field trips to local industries and lectures by instrument technicians and engineers who work with the company.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisites: ELN 109, ELN 110

ELN 238 - Antenna and Transmission Line Theory
This course is a study of antenna and transmission line theory. Methods of transferring radio frequency energy from its source to the antenna and radio wave propagation characteristics will be studied.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: ELN 202

ELN 240 - Computer Project (Digital)
This course is designed to provide the student with digital design techniques from concept through construction. Each project selection to be approved by the instructor.
Course Hours Per Week: M. Lab 6. Quarter Hours Credit 2.
Prerequisites: ELN 109, ELN 110

ELN 241 - Digital Principles and Applications
Basic computer and static control logic circuits will be studied. Discreet components will be used to construct logic circuits and investigate voltage levels, propagation delays and switching speed. Boolean principles relating to each type gate will be investigated.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisites: ELN 109, ELN 110

ELN 243 - Computer Electronics
A study of linear electronic circuits directly related to digital computer applications. Video amplifiers, low voltage and high voltage power supplies, deflection circuits and data transmission systems will be introduced.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: ELN 109

ELN 244 - Computer Project (Microprocessor)
This course is a continuation of ELN 240. This project will be oriented toward microprocessor applications.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: ELN 240

ELN 245 - Peripheral Devices
This course is an introduction to the theory of operation of digital computer peripheral devices such as printers, plotters, and disk drives. Particular attention will be given to maintenance and preventive maintenance procedures.
Course Hours Per Week: Class 1, M. Lab 6. Quarter Hours Credit 3.
Prerequisite: ELN 243

ELN 247 - Computer Project (Microcomputer)
This course is a continuation of ELN 244. This project will be oriented toward microcomputer applications.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: ELN 244

ELN 249 - Computer Interfacing
This course is designed to present digital computer applications. Topics to be introduced include display multiplexing, I/O control and handshaking, peripheral interface adapters, analog to digital conversion and digital to analog interfacing.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: ELN 251

ELN 250 - Introduction to Computer Systems
This course is designed to present the general concepts of microprocessor organization and structure to the student. Machine and Assembly Language will be introduced.
Course Hours Per Week: M. Lab 6. Quarter Hours Credit 2.
Prerequisite: ELN 110
Corequisite: ELN 241

ELN 251 - Microprocessors I
An in-depth study of integrated circuit logic devices used in microprocessor applications will be conducted. This study will include logic gates, memory devices, arithmetic logic units and input/output ports.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisite: ELN 241

ELN 252 - Microprocessors II
This course will be a continuation of ELN 251. Logic concepts previously studied will be used in an in-depth investigation of various microprocessors. Current uses of microprocessors in industrial applications will be presented. Applications of both Machine and Assembly Languages will be presented.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisite: ELN 251

ELN 253 - Electronics in Industry
This course emphasises theory and application of electronic devices used in industrial monitoring and control applications. It will include solid state devices, basic control concepts, control circuits, transducers, variable speed motor controls, and magnetic amplifiers.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisites: ELN 109, ELN 241

ELN 254 - Microprocessors, Servocontrols, and Robotics
This course will present theory of, and industrial applications for, servomechanisms and robotics. It will include studies of servomechanisms, digital circuits, microprocessors, data conversion, data communication, optoelectronics, automation, and robotics.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisite: ELN 253

ELN 255 - Computer Systems
A study of computer architecture and the operating system giving consideration to the general organization of the computer. Particular attention will be give to troubleshooting procedures used to analyze and facilitate the repair of digital computers. Troubleshooting utilizing hardware and software diagnostic tools will be introduced.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisites: ELN 245, ELN 251

ENG 087 - Prescriptive Reading
Prescriptive Reading is concerned with diagnosing and remediatling reading deficiencies on an individual basis. It focuses on improving vocabulary and reading skills, including reading rate plus literal and critical comprehension. The aim of the course is to prepare students to read college-level assignments efficiently.
Course Hours Per Week: Class 3, Lab 2. Institutional Hours Credit 4. (Does not apply toward graduation.)
Prerequisite: None

ENG 090 - Grammar Fundamentals
This course is designed to develop basic grammar and writing skills by reviewing basic rules of grammar with an emphasis on correct usage. It includes coverage of subject/verb agreement, punctuation, spelling, verb forms, pronoun reference and sentence structure. The student will practice simple sentence writing. Laboratory work may be required. Students are required to enroll in ENG 091 upon satisfactory completion of ENG 090.
Course Hours Per Week: Class 5. Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: None

ENG 091 - Fundamentals of Composition
This course reviews basic rules of grammar and introduces the student to the techniques of writing paragraphs with continued emphasis on sentence structure and paragraph development. Laboratory work may be required.
Course Hours Per Week: Class 5. Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: ENG 090

ENG 101 - Grammar
The course is designed to aid the student in the improvement of grammatical self-expression. This approach is functional with emphasis on grammar and sentence structure. It is intended to stimulate students in applying the basic principles of English grammar in their day-to-day situations in industry and social life.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

ENG 102 - Composition
This course is designed to help students improve dictionary skills and implement grammar skills learned in ENG 101, as well as to improve spelling, punctuation, and mechanics. Practice is given in writing sentences, paragraphs, and compositions of one to five paragraphs. Emphasis is placed on prewriting, topic sentences, transitions and conclusion. Paragraph development techniques as well as modes of writing such as exposition, description, and argumentation are practiced. Students will also work on proofreading and rewriting skills.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: ENG 101

ENG 103 - Report Writing
The fundamentals of English grammar and composition skills learned in ENG 102 are utilized as background for modern report writing. Typical reports using writing techniques and graphic devices are studied. A letter of application and resume are prepared. In addition to using writing and dictionary skills, attention is given to acquainting the student with library materials needed for research. A full-length report is required of each student. The report should relate to the student's specific curriculum or other related topics approved by the instructor.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: ENG 102 or ENG 105

ENG 104 - Reading and Composition
English 104 is designed to advance the student's compositional skills through the reaction in writing to various reading materials. The course covers finding main ideas and theses. It devotes attention to reading a variety of materials such as textbooks, newspapers, and imaginative literature. It includes sections on critical reading, telling fact from opinion, generalizing, drawing inferences, and recognizing bias. It concludes with the application of critical skills, reading skills, and study of figurative language to the reading of poems, short stories, and a novel.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: ENG 102 or ENG 106

ENG 105 - Grammar and Composition
This course is designed to aid the student in the improvement of grammatical self-expression. The approach is functional with emphasis on grammar, diction, sentence structure, and punctuation. It is intended to stimulate students to apply the basic principles of English grammar in their day-to-day situations in industry and social life.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

ENG 106 - Grammar and Composition
This course advances the student from ENG 105's basic mastery of word and sentence skills to include more advanced forms of grammar and usage in their application to written language. More advanced study, such as the uses of subordination, dictionary skills, spelling, and the use of the library to its fullest is included. The course culminates in the writing of a research paper.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: ENG 105

ENG 204 - Oral Communication
This course considers the basic concepts and principles of oral communication in order to help the student improve his speech communication skills. Emphasis is placed on organization of thoughts, listening, audience analysis, visual and audiovisual aids, voice, diction, pronunciation, projection, and attitude, on the application of techniques to improve speech habits and mannerisms, and on the production of poised, confident, effective oral presentations.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

ENG 207 - Poetry Writing
This course will cover instruction in writing poetry. It includes criticism and class discussion of original poems by students, practice in various verse forms, and development of the student's individual abilities.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: ENG 102 or ENG 106

ENG 208 - English Composition I
This course is an introduction to composition at the college level. Although it is designed for the student who already meets the basic competencies in the areas of sentence sense and basic grammar, a review of grammar, usage, and diction is included. The student practices techniques of invention, development, organization, editing, and revision. The course introduces the processes of writing and the structuring of paragraphs. Emphasis is placed on learning the modes of narration, exposition, description, and argumentation. Frequent paragraphs are required.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: ENG 090 or satisfactory placement test score

ENG 209 - English Composition II
This course, a continuation of ENG 208, will present the basic writing processes and techniques needed to produce effective essays. Through reading and reacting to printed and other materials, the student develops thinking skills which will be applied to the construction of themes and a research paper. Basic techniques of research and documentation such as notetaking, summarizing, critiquing, and quoting are studied.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: ENG 208

FST 106 - Nuclear Radiation Monitoring
This course is designed to provide a basic understanding of radiation and its biological effects, radiation detection procedures and instruments, protective measures, the dangers of transportation accidents involving radioactive materials, and the nuclide disintegration process.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: CHM 114 or equivalent

GEO 101 - Marine Geology
A study of major topographical features of the ocean floor will be undertaken in this course. Included will be coverage of continental drift, sea floor spreading, plate tectonics, seismology, sedimentation, paleontology, mineralogy and petrology as these pertain to the ocean.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

GEO 102 - Geology of the Oceans
This is an introductory course in marine geology. Recent discoveries concerning the ocean floor are discussed in this lecture course. Modern theories of plate tectonics and sea floor spreading are presented by lecture and film. Sediment samples, rocks and minerals collected on recent CFCC cruises are shown and discussed as they relate to the modern concepts of marine geology.
Course Hours Per Week: Class 4. Quarter Hours Credit 4.
Prerequisite: None

GGY 135 - Introduction to Physical Geography
This course will cover maps and map projections and their uses as well as analysis of the spatial distribution and character of environmental elements, including climate, land forms, vegetation, and soils.
Course Hours Per Week: Class 4, Lab 4. Quarter Hours Credit 6.
Prerequisite: None

HED 120 - First Aid and Marine Safety
This course introduces students to first aid procedures which will enable them to successfully cope with the everyday injuries and accidents that may occur in a marine environment. Prevention of these accidents will be discussed and stressed. Students will be taught safety rules utilized on board a vessels as well as at shore stations.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

HIS 101 - Western Civilization I
This course traces the history of Western Civilization from its near Eastern, Grecian, and Roman origins through the Middle Ages. It concludes with coverage of the Renaissance and Reformation periods.
Course Hours Per Week: Class 5. Quarter Hours Credits 5.
Prerequisite: None

HIS 102 - Western Civilization II
This course is a continuation of HIS 101. It begins with the Absolutism of the Seventeenth Century and covers the rise of constitutionalism, emerging industrialism and nationalism of the Nineteenth Century, and concludes with the development of modern day economic and political life.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: HIS 101

INS 215 - Life and Health Insurance
This course is designed to give the prospective insurance salesperson training in the field of life and health insurance. This course includes a study of lif insurance from the following points of view - life exposure, types of life insurance, and life policy provisions. Health insurance will be discussed on the following points: health exposure, types of health insurance, and health policy provisions. Social insurance topics will cover social security, unemployment compensation, and disability insurance. This course is approved b the North Carolina Department of Insurance for licensing.
Course Hours Per Week: Class 4. Quarter Hours Credit 4.
Prerequisite: None

INS 216 - Property and Casualty Insurance
This course is designed to give the prospective insurance salesperson an understanding of property and casualty insurance. It includes a study of property insurance, types of automobile insurance, general liability, commercial fire, homeowners, crime insurance, and government fire and casualty insurance. This course is approved by the North Carolina Department of Insurance for licensing.
Course Hours Per Week: Class 4. Quarter Hours Credit 4.
Prerequisite: None

LEG 101 - Introduction to Paralegalism
This course covers the objectives of the paralegal program, the legal vocabulary, the descriptions of various paralegal jobs, professional ethics, and professional organizations.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

LEG 113 - Family Law
The purpose of this course is to train paralegals to handle competently separations, divorces, annulments, adoptions, and bastardy proceedings from initial interview through data collection and drafting of instruments, giving notice, filing and serving documents, and setting hearing dates to final disposition.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: LEG 115 or BUS 115

LEG 115 - Commercial Law I
An introductory course for those majoring in the Paralegal Technology curriculum. The course will involve an introduction to the law, a discussion of the law of contracts, and business organizations. The course will include hands-on experience in drafting of contracts.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

LEG 116 - Commercial Law II
A continuation from Commercial Law I for paralegals with emphasis on the Uniform Commercial Code, personal property and bailment, and agency and employment. The course will include exposure to commercial instruments and drafting business documents.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: LEG 115 or BUS 115

LEG 117 Torts and Litigation Preparation
This course considers the broad problem of personal injury and disability and the legal response to that law. Negligence, strict liability, intentional torts, rules of civil procedure preparation, pleadings, motions, order, discovery materials and post-judgement remedies are covered in great detail.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: LEG 135

LEG 132 - Legal Research/Bibliography
This course introduces the student to the proper methods of utilizing legal research material. The student will study the preparation of legal memoranda and trial briefs. The course will introduce the student to the law library and how to select and order material for the library.
Course Hours Per Week: Class 4, Lab 6. Quarter Hours Credit 7.
Prerequisite: None

LEG 135 - Legal Systems
This course is a study of the jurisdiction of state and federal courts; the acquisition of jurisdiction over parties and subject matter; venue; pleadings and related problems under the North Carolina and Federal Civil Rules of Procedure; real party in interest; splittings of actions; joinder of parties an causes of action; special joinder devices; and forms of pleadings and motions.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

LEG 205 - Constitutional Law
A case study course showing the development of the application of the Federal Constitution to both criminal and civil law and a historic development of Constitutional Law.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: LEG 132

LEG 214 - Property I
This course is a study in ownership of interest in land, of land transfers, in whole and in part, absolute and conditional, present and future; of retained powers of ownership; and of the documents and procedures necessary to establish interest in land.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: LEG 115 or BUS 115

LEG 215 - Property II: Title Search
This course includes the study of the preparation of simple contracts for sale of real estate; examination of title; preparing simple titles; and role of judgement and estates in the determination of marketability of real estate title; the study and function of various documents, indices and files on public record in various county offices. Forms for abstracting title information from public records, summaries thereof, and various typical problems and errors which may render a title unmarketable are included.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: LEG 214

LEG 216 - Property III: Loan Closings
This is a continuation of Property II: Title Searching. The course addresses the preparation of closing document in connection with loans. The student is allowed extensive hands-on experience in preparing and drafting all documents relating to conventional, VA, FHA, and other loans.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: LEG 215.

LEG 217 - Elements of Criminal Law and Procedure
This is a study of the elements of crimes in North Carolina, of criminalization and punishment, of parties to crimes, and of defenses to crimes. Criminal procedure is examined and a case's progress through the courts traced.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: LEG 115 or BUS 115

LEG 224 - Wills
This course covers the probate and administration of wills. The topics of study include the operation and revocation of wills, descent and distribution in case of intestacy, construction of trust agreements, and the transfer of estate assets.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

LEG 230 - Bankruptcy and Collection
This course will introduce the student to the Bankruptcy Law. The student will understand the operation of the bankruptcy court and will be exposed to the techniques of debt collection and attachment.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: LEG 117

LEG 290 - Paralegal Internship
This course is offered in the final quarter of the Paralegal Technology curriculum and is designed as a co-op.
Course Hours Per Week: Co-op Hours 20. Quarter Hours Credit 2.
Prerequisite: Completion of 40 quarter hours of LEG courses with a "C" average or better.

LEG 291 - Paralegal Office Procedures
A guided class discussion of legal principles of office procedures and relating the same to everyday experiences.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: Completion of 40 quarter hours of LEG courses with a "C" average or better.

MAT 090 - Developmental Mathematics for Technical Curricula
This course is designed to provide the student with the fundamental concepts needed to undertake the mathematical sequences in the technical curricula. Topics include operations on whole numbers, prime numbers, multipliers and factors, powers and roots of whole numbers. Also included are operations on fractions and decimals, percentages, operations on the real number line, and geometry fundamentals.
Course Hours Per Week: Class 5. Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: None

MAT 099 - Pre-Admission Algebra
This course covers the fundamentals of high school Algebra I. It is designed to qualify a student for admission into curricula having high school Algebra I as an admission requirement. It is desired to provide a student with the equivalent of the high school Algebra I requirement for admission to MAT 121.
Course Hours Per Week: Class 4. Institutional Hours Credit 4. (Does not apply toward graduation.)
Prerequisite: None

MAT 110 - Business Mathematics
This course reviews the fundamental mathematical operations and their application to business problems. Topics covered include the fundamentals of problem-solving, computing with whole numbers and decimals, common and complex fractions, percentage, and interest.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

MAT 115 - Mathematics of Finance
This course covers the basic concepts of business statistical analysis, compound interest, annuities, sinking funds, and amortization. The basic concepts of depreciation of assets, financial statements, and profit distribution are also covered.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

MAT 116 - Business Statistics
A basic course in business statistics which includes the flow of funds statement, capital investment, changes in working capital, opportunity costs, internal rate of return, sensitivity analysis, probability distributions, analysis of variance, survey sampling, and correlation.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: MAT 110 or MAT 115

MAT 121 - Technical Mathematics
This introductory algebra course is the first in a three-course sequence.. The topics of study are operations with real numbers, introduction to exponents and radicals, operations with algebraic expressions, algebraic fractions, and solving first order equations.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: High school Algebra I or equivalent

MAT 122 - Technical Mathematics
This course is the second in a three-course sequence. The topics of study are graphing of functions, trigonometry of the right triangle, vectors, exponents and radicals, and exponential and logarithmic functions. Application of theses topics in technical areas of study will be stressed.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 121 or equivalent

MAT 123 - Technical Mathematics
This course is the third in a three-course sequence. The topics of study are systems of equations, in quadratic equations, variation, trigonometric graphs and polar coordinates, trigonometric formulas and equations, and solving oblique triangles.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 122 or equivalent

MAT 130 - Advanced Business Mathematics
This course is a study of pertinent uses of mathematics in the field of business. The topics covered include payrolls, price marking, depreciation, distribution of profits, compound interest, and amortization.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 110

MAT 200 - Precalculus
A comprehensive course in precalculus mathematics includes the fundamental concepts of real numbers and functions including polynomial and rational functions, exponential and logarithmic functions and trigonometric functions. Analytic trigonometry including trigonometric identities and equations are developed. Application of these concepts to practical situations is stressed.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 123 or equivalent

MAT 201 - Calculus I
The fundamental concepts of analytic geometry, differential, and integral calculus are introduced. Topics included are graphing techniques, geometric an algebraic interpretation of the derivative, differentials, rate of change, intergrals, and basic integration techniques. Application of these concepts to practical situations is stressed.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 200 or equivalent

MAT 202 - Calculus II
Applications of integration in velocity and acceleration problems, areas between curves, volumes, and work by a variable force are considered. Derivatives of trigonometric and inverse trigonometric functions and the application of these derivatives to various physical problems are studied. Derivatives of exponential and logarithmic functions and their applications are considered. Integration by logarithmic and trigonometric forms are studied as are integration by parts and by the use of tables.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 201

MAT 211 - Basic Statistics
This introductory course in statistics allows the student to identify and be able to work with statistical descriptions, probability, random variables and probability distributions, special distributions, sampling distributions, estimations of population proportion, test concerning population proportions, inferences concerning population mean and additional topics selected from the following: inferences concerning differences of two population means, inferences concerning population variances, Chi-square, regression and correlation, analysis of variance, nonparometric methods, survey sampling, quality control, Bayesian methods, and decision theory.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 122

MEC 121 - Industrial Methods I
Students will be introduced to basic shop hand tools and instructed in there proper use and care. The drill press and its accessories will be demonstrated and the student will be required to complete shop projects as assigned by the instructor. Safety will be stressed throughout the course.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: None

MEC 122 - Industrial Methods II
The lathe, milling machine, and all accessory tools will be introduced to the student. Emphasis will be placed on the machines limits and abilities. Safety rules will be stressed for each machine. Appropriate projects will be assigned by the instructor.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: MEC 121

MEC 123 - Industrial Methods III
Previous instructions and skills will be applied to a project which will allow the student an opportunity to test their shop knowledge. All safety rules will be a part of shop procedures.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: MEC 122

MEC 205 - Strength of Materials
This course is a continuation of PHY 106, Applied Mechanics. It is the study of stress and strain as they relate to structural design. The areas of force analysis of structures, friction, equilibrium, stress, and strain are covered in as much detail as time will permit.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisites: MAT 123, PHY 106

MEC 209 - Introduction to Metallurgy
This is an introductory course which will describe the properties of ferrous and non-ferrous metals as they apply to industrial applications. Metallurgical theory and practice will be studied to include the physical structure and composition of steel, the making, shaping, and treatment of steel and alloy steel as well as alloys of the common non-ferrous metals to include light metals, copper, nickel and the refractory metals.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

MEC 216 - Industrial Materials
Proper knowledge of all types of industrial materials is essential to successful decision-making and problem-solving. This introductory course investigates the basic materials in industry. Electrical and physical properties of materials, mechanical characteristics of materials, water and steam, industrial gases, ceramic materials, cements and concretes, and metals are studied.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

MEC 235 - Hydraulics and Pneumatics
In this course the student will learn the basic ideas of hydraulic and pneumatic systems. In so doing the student will develop an understanding of various hydraulic and pneumatic controls and their relationships and function in circuits. Symbols and conventional practices will be stressed.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisite: PHY 102 or PHY 105

MSC 101 - Navigation I
This course introduces students to basic marine piloting techniques using charts, navigational aids, buoys, markers, rules of the road, light and signals.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: None

MSC 102 - Navigation II
This is a continuation of MSC 101 introducing students to navigational publications and electronic navigational aids. Proper use of electronic equipment (radar, loran and the gyrocompass) will be stressed. As time permits, classroom instruction may include tides, tidal current effects, danger angles, and soundings.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: MSC 101

MSC 108 - Oceanographic Instrumentation
Oceanographic Instrumentation will be introduced via lecture, demonstration, and student operation. Emphasis will be placed on the use, maintenance, calibration, and repair of general survey instruments.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

MSC 109 - Oceanography I
This course provides students with a general description of the oceans, their geography, geology, chemistry, and physics.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

MSC 110 - Oceanography II
This course provides students with a general description of air-sea interactions, wave, tide and ocean current phenomena, and coastal dynamics.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

MSC 111 - Net Construction Methods
This course introduces students to all types of fish-catching methods available to the commercial and scientific fisherman. Students will be instructed to the basic aspects of rigging, rope splicing, various practical knots, and the kinds of hardware used in biological sampling operations. The basics of biological net construction and repair also will be covered.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MSC 112 - Biological Net Construction I
This course offers students further instruction and practical experience in the mending and patching of various types of gear as well as additional experience in various aspects of marlinspike seamanship. Students will receive instruction on the various types of webbing available as well as construction techniques for various types of entrapment and entanglement gear. Ordering, sizing, and practical applications of all gear constructed will be explained.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MSC 113 - Biological Net Construction II
This course offers students further instruction in the design and construction of some of the more complex sampling gear, including biological seines, trawls, and cast nets. Taper cuts and sewing techniques will be introduced as well as computer-assisted design of various equipment. Practical applications of all gear constructed will be explained.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: MSC 112

MSC 114 - Biological Sampling Methods
This course offers students further experience utilizing all the various skills and techniques taught in the prerequisite courses. This course will also include the proper care and maintenance of all equipment used, the proper recording of all biological data as well as theories and uses involved in the compilation of raw biological data.
Course Hours Per Week: Lab 4. Quarter Hours Credit 2.
Prerequisite: MSC 113

MSC 117 - Practical Experience I
This course offers students an introduction to various measuring devices and their uses, various hand and hand power tools and their uses, as well as experience in the basic design, construction, and maintenance of marine related materials.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: None

MSC 118 - Practical Experience II
This course introduces students to various stationary power tools and their uses. Further experience will be gained with the use of hand and portable power tools, as well as the basic design, construction, and maintenance of marine-related equipment.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: MSC 117

MSC 119 - Practical Experience III
This course offers students practical experience in the photographic recording of data as it relates to past biological, chemical, and instrumentation studies.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: PHO 110

MSC 132 - Power Boat Operations and Seamanship
This course introduces students to the various aspects of safe, skillful, and seamanlike operation of power boats. Students will operate and practice docking small craft. It also introduces students to the various skills, duties, and nomenclature required of able-bodied seamen.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MSC 141, 142, 143 - Marine Projects
Students will participate in a Marine Project that may or may not require training aboard a small craft, but will require participation in field work or tours related to knowledge gained in regular classes.
Course Hours Per Course: 33 Hours. Quarter Hours Credit 1.
Corequisite: 12 credit hours minimum enrollment in other Marine Technology curriculum courses.

MSC 202 - Data Processing I
This course introduces students to the handling and processing of oceanographic data. Temperature, salinity, and depth data are used to demonstrate standard methods of recording and reducing oceanographic data.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MSC 205 - Data Processing II
This course is a continuation of MSC 202 and will emphasize computer application in the collection, handling, reduction, and display of oceanographic temperature, salinity, and depth data.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisites: EDP 106, MSC 202 or permission of instructor

MSC 206 - Estuarine Survey
A course in which emphasis is placed on field sampling and measurements, laboratory analysis, data reduction, and data representation. This course is designed to provide an opportunity for soon-to-be graduating students to apply in a comprehensive, challenging, and significant manner what has been learned during the past seven quarters. A formal report will be required.
Course Hours Per Week: Class 2, Lab 4, M. Lab 3. Quarter Hours Credit 5.
Prerequisites: CHM 109, CHM 224, MSC 108

MUS 115 - Survey of Music Literature
This course is designed to increase the student's knowledge and appreciation of music; technical knowledge of music not required.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

MUS 118 - Music History
This trace of music from the Gregorian Chant to the present is designed to explain style development in relationship to historical influences. Historical moves in society are directly linked to the changes in music style.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

NUR 101 - Fundamentals of Nursing Nursing
101 introduces the student to basic nursing knowledge and skills. Concepts of illness-wellness, basic needs, growth and development, stress and adaptation, communication, and teaching-learning are introduced. The role of nutrition in meeting clients needs is correlated throughout the course. Selected nursing procedures are demonstrated and opportunities for practice and return demonstration of proficiency are provided in the laboratory setting. The nursing process is introduced as a systematic method of planning and providing nursing care.
Course Hours Per Week: Class 6, Lab 4. Quarter Hours Credit 8.
Prerequisite: Acceptance into the CFCC ADN program Co-requisites: BIO 121, PSY 105 (may have been taken at a prior time)

NUR 102 - Common Stressors in Medical Surgical Nursing
Nursing 102 explores common stressors often encountered by clients in conjunction with their illnesses and treatments. The classification, source, effects, legalities, and usage of drugs as therapeutic agents are studied. The role of nutrition in meeting clients needs continues to be correlated. Physical assessment is introduced and the student is provided with related clinical experiences in affiliating agencies where they may apply learned technical skills, assess physiological and psychosocial integrity, and develop beginning skills in the use of the nursing process.
Course Hours Per Week: Class 6, Lab 2, Clinical 12. Quarter Hours Credit 11.
Prerequisites: BIO 121, NUR 101 Co-requisites: BIO 122 (may have been taken at a prior time)

NUR 103 - Medical-Surgical Nursing I
Nursing 103 focuses on nursing care of hospitalized individuals with common medical-surgical conditions. Clinical experiences on medical and surgical floors of affiliating agencies will emphasize the development of increasing skill in the delivery of safe and effective care and the nursing process. The classification, source, effects, legalities, and usage of drugs as therapeutic agents continues to be studied. An introduction to the most commonly used therapeutic diets is included.
Course Hours Per Week: Class 6, Clinical 12. Quarter Hours Credit 10.
Prerequisites: NUR 102, BIO 122

NUR 104 - Maternal-Child Nursing
Nursing 104 is designed as a two part course focusing on maternal-infant care and child care. Prenatal, labor and delivery, and postnatal care are included. The normal infant and the infant experiencing difficulty are discussed. The care of children introducs the student to the etiology, treatment and nursing care of common and acute disorders that affect children from infancy through adolescence. The study of pharmacology as it relates to the nurse's role in drug administration is continued. Nutritional aspects continue to be correlated. Clinical experiences are provided in acute care and ambulatory settings of affiliating agencies where the student may continue to develop skill in the application of the nursing process.
Course Hours Per Week: Class 9, Clinical 12. Quarter Hours Credit 13.
Prerequisites - NUR 103, PSY 110, BIO 123, NUR 199 for the LPN student.

NUR 105 - Issues and Trends
Nursing 105 is designed to present historical events and current trends which impact on the nursing profession. Legal, ethical, economical, and professional concems are examined.
Course Hours Per Week: Class 2. Quarter Hours Credit 2.
Prerequisite: None

NUR 199 - Nursing Transition
Nursing Transition provides an orientation to the conceptual framework of the Associate Degree Nursing Program. It is designed for the Licensed Practical Nurse entering the ADN program with advanced standing. The course emphasis is on concepts basic to nursing, common stressors in medical-surgical nursing, basic physical assessment skills, and pathophysiological processes with related nursing interventions for common problems in the respiratory, cardiovascular, integumentary, GI and immune systems. Clinical experience will focus on the utilization of the nursing process on medical-surgical floors in local hospitals.
Course Hours Per Week: Class 6, Lab 2, Clinical 3. Quarter Hours Credit 8.
Prerequisites: BIO 122, graduation from an approved practical nursing program. This course must be repeated if completed more than one academic year prior to entering the program.

NUR 201 - Psychiatric Nursing
Nursing 201 is a study of the nurse's role in caring for persons experiencing altered behavior patterns. The nursing process continues as the tool utilized in addressing the needs of this patient population. Clinical emphasis is on communication and interpersonal relationships with experiences provided in inpatient psychiatric settings with limited experience in the community mental health setting.
Course Hours Per Week: Class 5, Clinical 12. Quarter Hours Credit 9.
Prerequisite: PSY 105

NUR 202 - Patient Care Management
This course introduces concepts of leadership and management. Styles of leadership; organizational structure; role theory; the nursing staffing process; the direction-giving process; organizational communication; conflict; the control process; and management skills are addressed with the focus on first level leadership and management needs. The student will have an aopportunity to implement these theories in the clinical component of NUR 203 and NUR 204.
Course Hours Per Week: Class 1. Quarter Hours Credit 1.
Prerequisite: None

NUR 203 - Medical-Surgical Nursing II
Nursing 203 continues the utilization of the nursing process in addressing the nursing needs of hospitalized individuals with common and complex medical-surgical problems. Students will be given the opportunity to implement patient care management concepts in organizing the care of a selected group of clients. Clinical experiencies will be on medical-surgical units of affiliating agencies.
Course Hours Per Week: Class 6, Clinical 15. Quarter Hours Credit 11.
Prerequisites: NUR 201, NUR 202

NUR 204 - Medical-Surgical Nursing III
Nursing 204 addresses the care of the individual with more complicated and complex medical-surgical problems. The nursing process continues to be utilized in the delivery of nursing care. Students are provided further opportunities to implement patient care management concepts. Clinical experiences are structured to facilitate the transition from the role of student to the role of the practicing RN. Medical-surgical units as well as critical care areas will be selected for implementation of theory.
Course Hours Per Week: Class 6, Clinical 15. Quarter Hours Credit 11.
Prerequisite: NUR 203

PED 101 - Foundations of Physical Activity
A study of immediate and long term effects of physical activity and the establishment of individualized programs for acquiring and maintaining physical fitness.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: None

PHO 110 - Introduction to Photography
This course is an introductory course covering the basic skills required for black and white photography, the operation of the camera, the creation and content of a good photograph, processing film, making prints, and preparing photographs for display.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

PHY 100 - Introductory Physics
This fundamental course is a prerequisite for PHY 103, PHY 104, PHY 105, or PHY 106. The student is introduced to the units used in measurements, and to the following concepts applied to linear motion: force, work, and power. Emphasis is placed on the universal applicability of these concepts to other more specialized programs of study.
Course Hours Per Week: Class 4, Lab 2. Quarter Hours Credit 5.
Prerequisite: It is recommended that MAT 121 be taken prior to enrolling in this course or to be taken concurrently with this course.

PHY 101 - Physics: Properties of Matter
This is an introductory course which describes some basic physical properties of matter in the solid, liquid, and gaseous states. Topics discussed are: units of measurement and unit conversions; density and hydrostatic pressure in liquids, surface tension; Hooke's law and the elasticity of solids and liquids; heat and temperature measurement; and the ideal gas law.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: MAT 121

PHY 102 - Physics: Work, Energy, and Power
This course is the second part of the introductory course and is designed to follow PHY 101. Topics discussed are velocity and acceleration of objects, Newton's laws of motion, vector calculations, work, energy, power, and rotary motion.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisites: PHY 101, MAT 121
Pre/Corequisite: MAT 122

PHY 103 - Physics: Electricity
This course is an introduction to the physical principles of electrical phenomena. Topics discussed include electrostatics, electric current flow and Ohm's law, magnetism and forces caused by electric currents, induced electric currents, alternating current devices, and simple electronic DC power supply circuits.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisites: MAT 122, PHY 100 or PHY 101

PHY 104 - Physics: Light and Sound
This course is an introduction to the description of optical and acoustic devices. Topics included are wave motion and resonance, sound measurements and human hearing, the Doppler effect, illumination and color, optical elements (lenses and mirrors), and some basic principles of physical optics.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisites: MAT 123, PHY 100 or PHY 101

PHY 105 - Physics: Heat and Fluids
This course is an introduction to heat energy and its effects on various materials. The course content is designed to provide the fundamental concepts necessary to describe heat transfer processes involving moving fluids. Topics included are pressure in liquids, laminar and turbulent flow of fluids, Bernoulli's principle, the ideal gas law, temperature and heat energy, and heat transfer via moving fluids.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: PHY 100 or PHY 101

PHY 106 - Applied Mechanics
This course is an introduction to statics. Some topics included are the equilibrium of two and three dimensional force systems, centroid and center of gravity, and the analysis of trusses and frames.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisites: MAT 123, PHY 100 or PHY 102

PHY 225 - Forensic Physics
This course is a survey of a variety of topics from technical physics which are useful in understanding phenomena experienced and equipment used in the criminal justice field. The course can be divided into three principal areas of study - ray optics and converging lenses, simple electric circuits using relays to achieve the AND and OR logic functions, linear motion and kinetic energy. Particular attention is given to the student's understanding of the physical principles of operation of devices such as cameras, telescopes, and alarm circuits.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: MAT 121

P&R 103 - Introduction to Religion
This course covers religion as a field of study, major modes of religious expression, chief issues in religious thought and experience, the search for method since the Enlightenment, and contemporary developments.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

PLS 101 - American National Government
This course focuses upon basic principles, institutions, and functions such as federalism, separation of powers, civil liberties, and judicial review.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

PLS 103 - State and Local Government
This course is a study of state and local governments. Topics such as taxation, revenues, and city council proceedings are included. The legislative, executive, and judicial branches of state government will be discussed.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

PME 101 - Marine Engines I
This is a course that introduces students to the basic construction of internal combustion engines of the reciprocating type. Basic maintenance and repair of related equipment including starters, water pumps, and generators will be covered. Outboard motors will be the primary type of engine studied in this course.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

PME 102 - Marine Engines II
This course is a continuation of PME 101. Theory of operation, breakdown and overhaul of small engines, water pumps, and accessories will be emphasized. Maintenance on all school inboard and outboard engines will be conducted as an integral part of the course.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: PME 101

PSY 105 - Introduction to Psychology
This course is designed to cover the basic principles of psychology with emphasis on terminology, psychological research methods, theoretical schools, learning theory, physiological bases of behavior, mental health and adjustment, motivation, perception, and personality theory.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

PSY 110 - Human Growth and Development
A survey course of human growth and development covering the entire life span with emphasis on the physiological and psychological growth stages of an individual.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: PSY 105

PSY 217 - Introduction to Psychology
This is a course designed to cover the basic principles of psychology that will be of assistance to the student in developing greater self-understanding and in improving interpersonal relationships on both individual and job-related bases. The content of the course includes the following: basic terminology, methods of gathering psychological data, psychology as a science, current schools of thought, learning theory and memory, personality development, stress and adjustment, and abnormal behavior.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

SHI 101, 102, 103, 104, 105 - Ocean Survey
These courses are conducted aboard ship for periods of up to two weeks. Credit in all five is required for graduation. Students will practice sampling and measuring techniques, and conduct observations during assigned watches. Should circumstances make it impossible to conduct the training aboard ship, training will be conducted aboard smallcraft or in the field and students will receive credit for a Marine Project course, which will still apply towards graduation.

SHI 101-102
Course Hours Per Course: 44-88 Hours. Quarter Hours Credit 2.
Corequisite: 12 credit hours minimum enrollment in the Marine Technology curriculum or approval of Marine Division Director.

SHI 103-104
Course Hours Per Course: 44-88 Hours. Quarter Hours Credit 2.
Prerequisites: MSC 108, CHM 109, or approval of Marine Division Director.
Corequisite: 12 credit hours minimum enrollment in the Marine Technology curriculum or approval of Marine Division Director.

SHI 105
Course Hours Per Course: 44-88 Hours. Quarter Hours Credit 2.
Prerequisites: MSC 205, CHM 224, or approval of Marine Division Director.
Corequisite: 12 credit hours minimum enrollment in the Marine Technology curriculum or approval of Marine Division Director.

SOC 102 - Principles of Sociology
This is an introductory course designed to cover the basic principles of sociology and to provide an understanding of culture, social structure, socialization, collective behavior, deviance and social control, stratification and social mobility. Emphasis is placed on the scientific study of group behavior and the effect of social life on personality and behavioral development.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

SOC 104 - Introduction to Sociology
This course is designed to cover the basic principles of sociology and to provide an understanding of sociological concepts, methodology, culture, social structure and stratification, collective behavior, deviance, social mobility, demographics, and contemporary social institutions.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

SOC 206 - American Institutions
This course is a study of the effect of American social, economic, political, religious, and educational institutions upon the individual's role as a citizen and a worker. The course dwells upon current local, national, and global problems in the light of our political and economic heritage.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

SOC 212 - Sociology of Deviant Behavior
This course will focus on the various sociological theories of deviant behavior and the methodologies of reformative actions. Areas covered may include substance abuse, sexual deviance, violence, property crimes, and mental disorders.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: SOC 102

SOC 217 - Juvenile Delinquency
This course is designed to analyze the causes, treatment, and prevention of delinquency. Emphasis is placed on the sociological and psychological parameters affecting adolescent development which may contribute to delinquency. Historical and contemporary points of view are compared.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

SOC 219 - The Family in Society
This course will deal with the dynamic nature of the family institution. It is intended to build on the sociological foundation established in SOC 102. The primary expectation is that the student examine family systems and issues beyond his/her own experience and critique them in an objective and articulate manner. A variety of resources will be drawn upon to integrate the classroom theory with the reality in the community.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: SOC 102

WLD 134 - Marine Welding
There will be demonstrations by the instructor and practice by students in the welding shop. Students should become proficient in welding stringer beads from the flat position to the vertical position in the time allotted during the quarter. Safe and correct methods of assembling and operating the welding equipment, the correct use of flame cutting and arc cutting equipment applicabl to mechanical repair work will be demonstrated.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

TRADE CURRICULA

In North Carolina, as well as throughout the nation, the demand for skilled tradesmen is at an all-time high. Hardly a day passes that the College does not have at least one call from industry looking for prospective employees. Graduates of the trade programs sometimes have as many as four or five offers of employment upon graduation.

Students in the skilled trade programs are trained in shops similar to those of private industries. The shops contain testing and measuring instruments, tools, and equipment of the same size and types as found in private firms. The facilities make possible practical instruction which is essential to the preparation of skilled workers needed by today's modern industries. Students in these trade programs spend twenty-five to thirty hours per week in school; this time is divided between classroom studies and practical shop work.

Skilled craftsmanship in the occupation, appropriate educational background and leadership ability are the bases for instruction selection in these trade courses.

A diploma is awarded to those students who satisfactorily complete the full-time trade program. To be eligible for the diploma, students must maintain satisfactory grades in all shop, class work, and maintain an overall grade point average of 2.00.

AUTHORIZED PROGRAMS

One year (12 months) training courses are offered in the following skilled trades:

Air Conditioning, Heating, and Refrigeration
Automotive Mechanics
Boatbuilding
Child Care Worker
Industrial Electricity
Industrial Mechanics
Light Construction
Machinist
Marine and Diesel Mechanics
Practical Nursing
Welding

AIR CONDITIONING, HEATING AND REFRIGERATION

The air conditioning, heating and refrigeration curriculum is designed to teach knowledge and skills necessary for servicing and installing residential and light commercial climate control equipment. Instruction will include heating and cooling theory, applied electricity and electronics, and the operating principles for a wide-range of heating and cooling equipment. The diploma program will emphasize start-up and service skills for oil, gas and electric furnaces, air-cooled air conditioning and air-to-air heat pumps.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
AHR 1113 Servicing Heating Equipment	3	0	9	6
AHR 1115 Fundamentals of Heating	2	2	0	3
DFT 1104 Blueprint Reading	2	0	3	3
ELC 1150 Basic Electricity	2	2	0	3
PHY 1101 Applied Science	3	2	0	4
	12	6	12	19
SECOND QUARTER				
AHR 1121 Principles of Refrigeration	3	0	9	6
AHR 1129 Applied Electricity for Heating, Ventilation and Air Conditioning Systems	2	0	3	3
ELC 1151 Applied Wiring Diagrams	2	0	3	3
MAT 1101 Trade Mathematics	5	0	0	5
WLD 1104 Basic Gas Welding	1	0	3	2
	13	0	18	19
THIRD QUARTER				
AHR 1123 Fundamentals of Air Conditioning	5	0	0	5
AHR 1132 Air Conditioning Servicing	3	0	12	7
AHR 1135 Applied Electronics for Heating, Ventilation and Air Conditioning Systems	2	0	3	3
PSY 1101 Human Relations	3	0	0	3
	13	0	15	18
FOURTH QUARTER				
AHR 1138 All-Weather Systems: Conventional	3	0	9	6
AHR 1139 All-Weather Systems: Heat Pumps	4	0	9	7
ENG 1101 Communication Skills	2	0	0	2
	9	0	18	15

MINI COURSES — When mini courses AHR 1113-A and AHR 1113-B are completed, full credit will be given for AHR 1113.

AHR 1113-A Service Heating Equipment	2	0	6	4
AHR 1113-B Service Heating Equipment	1	0	3	2

See pages 131 to 155 for course descriptions.

AUTOMOTIVE MECHANICS

The Automotive Mechanics curriculum provides a training program for developing basic knowledge and skills needed to inspect, diagnose, repair and adjust automotive vehicles. Manual skills are developed in practical shop work; technical understanding of the operating principles involved in the modern automobile are taught through class assignments, discussions and shop practices.

Automobile mechanics maintain and repair mechanical, electrical and body parts of passenger cars, trucks and buses. In some communities and rural areas they also service tractors or marine engines and other gasoline-powered equipment. Mechanics inspect and test equipment to determine the causes of faulty operation. They repair or replace defective parts to restore the vehicle or machine to proper operating condition and use shop manuals and other technical publications as references for technical data. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
AUT 1120 Automotive Analysis	2	0	3	3
ENG 1101 Communication Skills	2	0	0	2
MAT 1101 Trade Mathematics	5	0	0	5
PME 1101 Internal Combustion Engines	3	0	15	8
	12	0	18	18
SECOND QUARTER				
AUT 1126 Schematics and Diagrams: Automotive	0	0	3	1
AUT 1129 Emission Systems: Automotive	2	0	3	3
ENG 1102 Communication Skills	2	0	0	2
PME 1102 Engine Electrical and Fuel Systems	5	0	15	10
	9	0	21	16
THIRD QUARTER				
AHR 1100 Automotive Air Conditioning	1	0	3	2
AUT 1121 Braking Systems	3	0	3	4
AUT 1123 Automotive Chassis and Suspension Systems	3	0	9	6
PHY 1101 Applied Science	3	2	0	4
PSY 1101 Human Relations	3	0	0	3
	13	2	15	19
FOURTH QUARTER				
AUT 1124 Automotive Power-Train Systems	3	0	9	6
AUT 1125 Automotive Servicing	3	0	9	6
BUS 1103 Small Business Operations	3	0	0	3
WLD 1102 Basic Welding	0	0	3	1
	9	0	21	16

MINI COURSES — When mini courses PME 1102-A, PME 1102-B, PME 1102 -C, and PME 1102-D are completed, full credit will be given for PME 1102.

PME 1102-A Engine Electrical and Fuel Systems	1	0	3	2
PME 1102-B Engine Electrical and Fuel Systems	1	0	3	2
PME 1102-C Engine Electrical and Fuel Systems	1	0	3	2
PME 1102-D Engine Electrical and Fuel Systems	2	0	6	4

See pages 131 to 155 for course descriptions.

BOATBUILDING

The Boatbuilding curriculum prepares individuals for employment in the boat manufacturing and repair industries. Today's boatbuilder is a skilled craftsman who can create complex shapes out of fiberglass, wood, and an array of other Space Age materials. The boatbuilder must be able to select the proper tools and materials required for a particular job and to plan its efficient execution so that the work can be finished in accordance with blueprint specifications.

Graduates may find employment with a yacht manufacturer (or other company that needs fine wooden furniture and mouldings fabricated and installed. Opportunities also exist in the fiberglass industry. Boat hulls, some automobile bodies, shower stalls, and other items are made from fiberglass molds. Boatbuilding graduates know how to build these molds to a mirror finish from a set of blueprints. Graduates may also find employment with a boat yard that maintains, repairs, and renovates boats.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
DFT 1127 Marine Drafting	3	0	6	5
MAT 1101 Trade Mathematics	5	0	0	5
MSC 1110 Boatbuilding I	5	0	12	9
	13	0	18	19
SECOND QUARTER				
CAR 1110 Modern Yacht Joiner Practices I	3	0	6	5
ELC 1101 Practical Marine Electricity	2	0	3	3
MSC 1111 Boatbuilding II	4	0	12	8
	9	0	21	16
THIRD QUARTER				
CAR 1111 Modern Yacht Joiner Practices II	2	0	6	4
ENG 1101 Communication Skills	2	0	0	2
MSC 1112 Boatbuilding III	3	0	12	7
PHY 1101 Applied Science	3	2	0	4
	10	2	18	17
FOURTH QUARTER				
CAR 1114 Yacht Repair and Renovation	4	0	9	7
FBG 1101 Fiberglass Mold Making	4	0	9	7
WLD 1101 Basic Welding	1	0	3	2
	9	0	21	16

See pages 131 to 155 for course descriptions.

CHILD CARE WORKER

The Child Care Worker curriculum prepares individuals to work as assistants with early childhood specialists in day-care centers, nursery schools, kindergartens, child development centers, hospitals, institutions, camps and recreation centers. This curriculum provides course work to meet the requirements for entry level employment and upgrading or retraining of staff in child care facilities.

Instruction includes theory and application in child care, growth and development of children, behavior patterns of children, health practices and how to deal with the emotional and physical problems of children.

As of January 1, 1987 - In order to be employable in a day-care center in North Carolina, you must be a high school graduate or have obtained the GED certificate.

		HOURS PER WEEK			
		Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER					
EDU 1101	Child Growth and Development (Infant-Toddler 0-24 months)	3	0	0	3
EDU 1102	Child Growth and Development (Preschool 2-5)	3	0	0	3
EDU 1105	Health, Safety, and Nutrition of the Young Child	3	0	0	3
EDU 1130	Introduction to Preschool Education	3	0	0	3
		12	0	0	12
SECOND QUARTER					
EDU 1116	Early Childhood Curriculum Planning: Cognitive	3	0	0	3
EDU 1122	Guiding Children's Behavior	3	0	0	3
EDU 1138	Program Planning for Infants and Toddlers	3	0	0	3
ENG 1101	Communication Skills	2	0	0	2
		11	0	0	11
THIRD QUARTER					
EDU 1006	Language Arts in Early Childhood	3	0	0	3
EDU 1148	Infant-Toddler Care	3	0	0	3
ENG 1102	Communication Skills	2	0	0	2
HEA 1119	First Aid	3	0	0	3
		11	0	0	11
FOURTH QUARTER					
EDU 1009	Art in the Early Childhood Program	1	2	0	2
EDU 1103	Music and Integrated Activities	1	2	0	2
EDU 1111	Communicating Effectively with Young Children	3	0	0	3
PSY 1101	Human Relations	3	0	0	3
		8	4	0	10
FIFTH QUARTER					
EDU 1022	Mathematics and Science for Young Children	3	0	0	3
EDU 1113	Early Childhood Curriculum Planning: Social Studies and Special Holidays	3	0	0	3
EDU 1125	Working with Parents	3	0	0	3
SOC 1112	Families in American Culture	3	0	0	3
		12	0	0	12
SIXTH QUARTER					
EDU 1106	Nutrition/Cooking Experience	3	0	0	3
EDU 1115	Early Childhood Curriculum Planning: Construction, Physical, and Blocks	3	0	0	3
EDU 1118	Operation of Child Care Programs	3	0	0	3
EDU 1203	Exceptional Children	3	0	0	3
		12	0	0	12

It is recommended that EDU 1101 and 1102 be taken as early in the program as possible.
See pages 131 to 155 for course descriptions.

INDUSTRIAL ELECTRICITY

The Industrial Electricity program is designed to prepare students for the installation, repair, and maintenance of electrical equipment. The emphasis is on motors and related control systems, but students who take the basic courses will have sufficient knowledge and skill to work as helpers for electricians or repairmen in house wiring, small appliance repair, industrial maintenance, linemen, and related jobs.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
ELC 1104 Basic Electricity I	5	0	9	8
ELN 1106 Instrument Familiarization	3	0	6	5
ENG 1101 Communication Skills	2	0	0	2
MAT 1101 Trade Mathematics	5	0	0	5
	15	0	15	20
SECOND QUARTER				
ELC 1105 Basic Electricity II	5	0	9	8
ELN 1111 Electro-Mechanical Relays and Symbols	3	0	6	5
ENG 1102 Communication Skills	2	0	0	2
MAT 1125 Industrial Calculations	5	0	0	5
	15	0	15	20
THIRD QUARTER				
DFT 1104 Blueprint Reading	2	0	3	3
ELC 1115 AC and DC Machinery	4	0	9	7
ELC 1116 Motor Control	3	0	6	5
PSY 1101 Human Relations	3	0	0	3
	12	0	18	18
FOURTH QUARTER				
DFT 1109 Blueprint Reading	2	0	3	3
ELC 1125 Industrial Wiring Practices	4	0	6	6
ELN 1130 Solid State Devices, Circuits, and Symbols	5	0	6	7
WLD 1102 Basic Welding	0	0	3	1
	11	0	18	17

MINI COURSES — When mini courses ELC 1104-A and ELC 1104-B are completed, full credit will be given for ELC 1104

ELC 1104-A Basic Electricity I	2	0	6	4
ELC 1104-B Basic Electricity I	3	0	3	4

See pages 131 to 155 for course descriptions.

INDUSTRIAL MECHANICS

The curriculum in Industrial Mechanics prepares students with a broad background in industrial skills required by industry for its mechanics. The individual developes skills in the repair and maintenance of industrial equipment, basic welding and cutting, refrigeration and air conditioning, direct and alternating current, machines and their controls, and related courses.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
AHR 1103 Basic Heating and Air Conditioninag	1	0	3	2
DFT 1104 Blueprint Reading	2	0	3	3
MAT 1101 Trade Mathematics	5	0	0	5
MEC 1127 Industrial Mechanics I	4	0	6	6
WLD 1106 Welding and Burning I	0	0	6	2
	12	0	18	18
SECOND QUARTER				
DFT 1105 Blueprint Reading	0	0	3	1
ENG 1101 Communication Skills	2	0	0	2
MAT 1102 Trade Mathematics	5	0	0	5
MEC 1128 Industrial Mechanics II	4	0	9	7
WLD 1107 Welding and Burning II	0	0	6	2
	11	0	18	17
THIRD QUARTER				
DFT 1108 Blueprint Reading	2	0	3	3
ELC 1100 Basic Electricity	1	0	3	2
MEC 1113 Shop Processes I	1	0	3	2
MEC 1121 Industrial Hydraulics I	1	0	3	2
MEC 1129 Industrial Mechanics III	4	0	6	6
PSY 1101 Human Relations	3	0	0	3
	12	0	18	18
FOURTH QUARTER				
ELC 1117 Industrial AC Motors and Controls	1	0	3	2
MEC 1114 Shop Processes II	1	0	3	2
MEC 1122 Industrial Hydraulics II	1	0	3	2
MEC 1130 Industrial Mechanics IV	5	0	9	8
PHY 1101 Applied Science	3	2	0	4
	11	2	18	18

MINI COURSES — When mini courses MEC 1127-A and MEC 1127-B are completed, full credit will be given for MEC 1127.

MEC 1127-A Industiral Mechanics I	2	0	3	3
MEC 1127-B Industrial Mechanics I	2	0	3	3

See pages 131 to 155 for course descriptions.

LIGHT CONSTRUCTION

The Light Construction curriculum prepares individuals for employment in the building trades industry. Instruction is provided in carpentry, masonry, electrical wiring, and plumbing. Students study applied mathematics, blueprint reading and sketching, safety, and other related subjects. They learn the methods used in laying out a small structure, mixing and pouring cement, rough framing, laying brick and block, roofing, and exterior finishing.

Graduates may find employment with home builders or with commercial building contractors. They may enter the building trades as apprentices or work as building maintenance mechanics in small industries or public buildings including schools, hospitals, and apartment houses. After sufficient experience in the trade, some workers may establish their own business.

SPECIAL NOTE: At Cape Fear Community College, students will actually build a small residential home.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
CAR 1101 Carpentry (Rough)	6	0	12	10
DFT 1110 Building Trades Blueprint Reading and Sketching	5	0	0	5
ENG 1101 Communication Skills	2	0	0	2
MAT 1101 Trade Mathematics	5	0	0	5
	18	0	12	22
SECOND QUARTER				
CAR 1102 Carpentry (Framing)	5	0	15	10
DFT 1113 Blueprint Reading: Building Trades	5	0	0	5
ENG 1102 Communication Skills	2	0	0	2
PSY 1101 Human Relations	3	0	0	3
	15	0	15	20
THIRD QUARTER				
CAR 1103 Carpentry (Finishing)	4	0	21	11
PLU 1101 Basic Plumbing	2	0	3	3
	6	0	24	14
FOURTH QUARTER				
CAR 1135 Blueprints and Field Coordination	2	0	3	3
ELC 1109 Electrical Wiring	2	0	3	3
MAS 1101 Masonry	5	0	15	10
	9	0	21	16

MINI COURSES — When mini courses CAR 1101-A, CAR 1101-B, CAR 1101-C, and CAR 1101-D are completed, full credit will be given for CAR 1101.

CAR 1101-A Carpentry (Rough)	2	0	3	3
CAR 1101-B Carpentry (Rough)	2	0	3	3
CAR 1101-C Carpentry (Rough)	1	0	3	2
CAR 1101-D Carpentry (Rough)	1	0	3	2

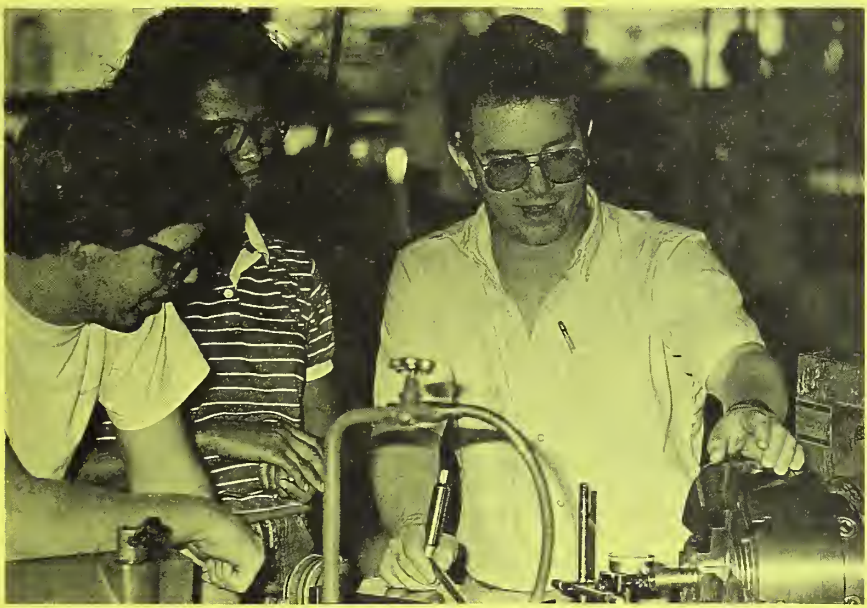
See pages 131 to 155 for course descriptions.

MACHINIST

The Machinist curriculum gives individuals the opportunity to acquire basic skills and related technical information necessary to gain employment in the metalworking industries. The machinist is a skilled metalworker who shapes metal by using machine tools and hand tools. Machinists must be able to set up and operate the machine tools found in a modern shop. Computer Numerical Control (CNC) may be integrated into various phases of the curriculum or as specialized courses.

The machinist is able to select the proper tools and materials required for each job and to plan the cutting and finishing operations in their proper order so that the work can be finished according to blueprint or written specifications. The machinist makes computations relating to dimensions of work, tooling, feeds and speeds of machining. Precision measuring instruments are used to measure the accuracy of work. The machinist also must know the characteristics of metals so that annealing and hardening of tools and metal parts can be accomplished in the process of turning a block of metal into an intricate precise part.

ADVANCED DIPLOMA (FIFTH - SEVENTH QUARTERS)
Students who continue through the advanced diploma level of the machinist curriculum will be able to refine basic machining skills and gain more experience in CNC machining and other technologies.



MACHINIST

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
DFT 1104 Blueprint Reading	2	0	3	3
ENG 1101 Communication Skills	2	0	0	2
MAT 1101 Trade Mathematics	5	0	0	5
MEC 1101 Machine Shop Theory and Practice	3	0	15	8
	12	0	18	18
SECOND QUARTER				
DFT 1105 Blueprint Reading	0	0	3	1
MAT 1102 Trade Mathematics	5	0	0	5
MEC 1102 Machine Shop Theory and Practice	3	0	15	8
WLD 1101 Basic Welding	1	0	3	2
	9	0	21	16
THIRD QUARTER				
DFT 1106 Blueprint Reading	0	0	3	1
MAT 1122 Machinist Mathematics I	5	0	0	5
MEC 1103 Machine Shop Theory and Practice	3	0	15	8
MEC 1109 Computer Controlled Machine Tools I	2	2	0	3
	10	2	18	17
FOURTH QUARTER				
MAT 1123 Machinist Mathematics II	5	0	0	5
MEC 1104 Machine Shop Theory and Practice	4	0	12	8
MEC 1110 Computer Controlled Machine Tools II	2	2	0	3
PHY 1101 Applied Science	3	2	0	4
	14	4	12	20
FIFTH QUARTER				
DFT 2001 Computer Aided Drafting and Design	2	4	0	4
MEC 2010 Introduction to Microcomputers	5	0	0	5
MEC 2012 Turning Center Programming and Operation	3	2	0	4
	10	6	0	13
SIXTH QUARTER				
MEC 2014 Computer Aided Manufacturing I	2	4	0	4
MEC 2018 Computer Numerical Control (CNC) Milling Programming and Operation	3	2	0	4
MEC 2020 Jigs and Fixtures I	4	2	0	5
	9	8	0	13
SEVENTH QUARTER				
MAT 2000 Math for Manufacturing	5	0	0	5
MEC 2015 Computer Aided Manufacturing II	2	4	0	4
MEC 2021 Jigs and Fixtures II	2	0	6	4
	9	4	6	13

MINI COURSES — When mini courses MEC 1101-A, MEC 1101-B, and MEC 1101-C are completed, full credit will be given for MEC 1101.

MEC 1101-A Machine Shop Theory and Practice	1	0	3	2
MEC 1101-B Machine Shop Theory and Practice	1	0	6	3
MEC 1101-C Machine Shop Theory and Practice	1	0	6	3

See pages 131 to 155 for course descriptions.

MARINE AND DIESEL MECHANICS

The Marine and Diesel Mechanics curriculum provides training for individuals interested in becoming mechanics to service and maintain the propulsion system for boats and various type of marine equipment. Manual skills in servicing marine equipment are developed in practical shop work. A thorough understanding of the operating principles of this equipment is provided through classroom instruction, laboratory experiments, group discussions, and shop practices.

Marine engine mechanics maintain and repair mechanical, electrical, hydraulic, and pneumatic equipment used on boats and in industrial applications. Mechanics inspect and test equipment to determine the causes of faulty operations; repair or replace defective parts to restore the machine or unit to proper operating condition; and use shop manuals, manufacturers' maintenance manuals, and other publications for technical information.

		HOURS PER WEEK			
		Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER					
ENG 1101	Communication Skills	2	0	0	2
MAT 1101	Trade Mathematics	5	0	0	5
PHY 1101	Applied Science	3	2	0	4
PME 1101	Internal Combustion Engines	3	0	15	8
		13	2	15	19
SECOND QUARTER					
ELC 1111	Direct and Alternating Electricity	2	2	0	3
ENG 1102	Communication Skills	2	0	0	2
MDE 1101	Marine and Diesel Engine Theory and Practice I	2	0	12	6
MDE 1104	Marine and Diesel Power-Train Systems I	1	0	3	2
MDE 1108	Gas and Diesel Fuel Systems I	2	0	3	3
PME 1131	Schematics and Diagrams: Marine and Diesel	3	0	0	3
		12	2	18	19
THIRD QUARTER					
MDE 1102	Marine and Diesel Engine Theory and Practice II	3	0	12	7
MDE 1105	Marine and Diesel Power-Train Systems II	1	0	3	2
MDE 1109	Gas and Diesel Fuel Systems II	2	0	3	3
PSY 1101	Human Relations	3	0	0	3
WLD 1101	Basic Welding	1	0	3	2
		10	0	21	17
FOURTH QUARTER					
MDE 1103	Marine and Diesel Engine Theory and Practice III	3	0	15	8
MDE 1110	Gas and Diesel Fuel Systems III	2	0	3	3
PME 1136	Fundamentals of Hydraulics	3	0	6	5
		8	0	24	16

MINI COURSES — When mini courses MDE 1101-A, MDE 1101-B, MDE 1101-C, and MDE 1101-D are completed, full credit will be given for MDE 1101.

MDE 1101-A	Marine and Diesel Engine Theory and Practice I	1	0	3	2
MDE 1101-B	Marine and Diesel Engine Theory and Practice I	1	0	3	2
MDE 1101-C	Marine and Diesel Engine Theory and Practice I	0	0	3	1
MDE 1101-D	Marine and Diesel Engine Theory and Practice I	0	0	3	1

See pages 131 to 155 for course descriptions.

PRACTICAL NURSING

The Practical Nursing curriculum graduates are prepared to take the National Council Licensure Examination required to practice as a licensed practical nurse. The Practical Nursing curriculum is designed to develop competencies in practicing the following five components of practice as defined by the North Carolina Nursing Practice Act 1981: participating in assessing the client's physical and mental health including the client's reaction to illnesses and treatment regimens; recording and reporting the results of the nursing assessment; participating in implementing the health care plan developed by the registered nurse and/or prescribed by any person authorized by State law to prescribe such a plan, by performing tasks delegated by and performed under the supervision or under orders or directions of a registered nurse, physician licensed to practice medicine, dentist, or other person authorized by state law to provide such supervision; reinforcing the teaching and counseling of a registered nurse, physician licensed to practice medicine in North Carolina, or dentist; and reporting and recording the nursing care rendered and the client's response to that care.

Licensed practical nurses may be employed in hospitals, nursing homes, clinics, doctors' offices, industry, and public health agencies.

Individuals desiring a career in practical nursing should be encouraged to take math and science courses in high school.

UNDER REVISION

	HOURS PER WEEK			
	Class	Lab	Clinical	Quarter Hours Credit
FIRST QUARTER				
BIO 1003 Introduction to Human Body	6	0	0	6
ENG 1003 Grammar	3	0	0	3
NUR 1001 Fundamentals of Practical Nursing	6	4	0	8
NUR 1002 Pharmacology	3	2	0	4
NUT 1102 Nutrition	3	0	0	3
	20	6	0	23
SECOND QUARTER				
NUR 1003 Medical-Surgical Nursing I	5	2	12	10
NUR 1004 Obstetrics	3	0	6	5
PSY 1102 Growth and Development	3	0	0	3
	11	2	18	18
THIRD QUARTER				
NUR 1005 Medical-Surgical Nursing II	5	0	6	7
NUR 1006 Pediatrics	6	0	9	9
	11	0	15	16
FOURTH QUARTER				
NUR 1007 Medical-Surgical Nursing III	8	0	15	13
NUR 1008 Issues and Trends	3	0	0	3
	11	0	15	16

See pages 131 to 155 for course descriptions.

WELDING

The Welding curriculum gives students sound understanding of the principles, methods, techniques, and skills essential for successful employment in the welding field and metals industry. Welders join metals by applying intense heat, and sometimes pressure, to form a permanent bond between intersecting metals.

Welding offers employment in practically any industry: shipbuilding, automotive, aircraft, guided missiles, heavy equipment, railroads, construction, pipefitting, production shops, job shops, and many others.

	HOURS PER WEEK			
	Class	Lab	Manipulative Lab	Quarter Hours Credit
FIRST QUARTER				
DFT 1112 Blueprint Reading: Welding	1	0	3	2
MAT 1101 Trade Mathematics	5	0	0	5
WLD 1119 Basic Arc Welding and Oxy-Fuel Cutting	7	0	9	10
	13	0	12	17
SECOND QUARTER				
DFT 1117 Blueprint Reading: Welding	0	0	3	1
ENG 1101 Communication Skills	2	0	0	2
PHY 1101 Applied Science	3	2	0	4
WLD 1127 Advanced Arc Welding	7	0	9	10
	12	2	12	17
THIRD QUARTER				
DFT 1120 Blueprint Reading of Pipe Drawings and Pipe Sketchings	0	0	3	1
MEC 1113 Shop Processes I	1	0	3	2
PHY 1102 Applied Science	3	2	0	4
WLD 1122 Commercial and Industrial Practices	3	0	0	3
WLD 1123 Inert Gas Welding (Tig, Mig, and Plasma)	7	0	6	9
	14	2	12	19
FOURTH QUARTER				
ENG 1102 Communication Skills	2	0	0	2
MEC 1114 Shop Processes II	1	0	3	2
PSY 1101 Human Relations	3	0	0	3
WLD 1124 Pipe Welding	4	0	6	6
WLD 1125 Certification Practices	3	0	3	4
	13	0	12	17

MINI COURSES — When mini courses WLD 1119-A, WLD 1119-B, WLD 1119-C, and WLD 1119-C are completed, full credit will be given for WLD 1119.

WLD 1119-A Basic Arc Welding and Oxy-Fuel Cutting	1	0	3	2
WLD 1119-B Basic Arc Welding and Oxy-Fuel Cutting	1	0	3	2
WLD 1119-C Basic Arc Welding and Oxy-Fuel Cutting	2	0	3	3
WLD 1119-D Basic Arc Welding and Oxy-Fuel Cutting	3	0	0	3

See pages 131 to 155 for course descriptions.

TRADE COURSE DESCRIPTIONS

AHR 1100 - Automotive Air Conditioning
This course is a general introduction to the principles of refrigeration; study of the assembly of components and connections necessary in the mechanisms; and the methods of refrigerants in charging the system.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

AHR 1103 - Basic Heating and Air Conditioning
This is a basic course in heating and air conditioning to acquaint the industrial mechanic with principles, theory, and working knowledge of this type of equipment.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

AHR 1113 - Servicing Heating Equipment
An introduction to the servicing and repair procedures for electric, gas, and oil warm air heating systems. Emphasis is placed on students' hands-on practice in servicing, the analysis of operating malfunctions, and the repair of system components. Students will learn systematic procedures for diagnosing and repairing mechanical and electrical malfunctions.
Course Hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Corequisites: AHR 1115, ELC 1150

AHR 1113-A - Servicing Heating Equipment
An introduction to the servicing and repair procedures for electric, gas, and oil warm air heating systems. Emphasis is placed on students' hands-on practice in servicing.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisite: AHR 1115, ELC 1150

AHR 1113-B - Servicing Heating Equipment
A continuation of Part A with emphasis on the analysis of operating malfunctions, and the repair of system components. Students will learn systematic procedures for diagnosing and repairing mechanical and electrical malfunctions.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: AHR 1113-A

AHR 1115 - Fundamentals of Heating
An introduction to the fundamentals of warm air heat, including oil, gas, and electric forced air systems. Emphasis is placed upon terminology, operating principles, theory, components and materials utilized in installation, and servicing.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: None

AHR 1121 - Principles of Refrigeration
An introduction to the principles of refrigeration. Emphasis is given to terminology, safety, the use and care of tools and equipment, the identification and function of component parts of refrigeration systems, and refrigerant piping practices. Students will have an opportunity to practice working with hand tools, materials, and piping in order to develop basic skills in the installation service, and repair of the refrigeration components of air-conditioning systems.
Course Hours Per Week: Class 3, M. Lab 9.Quarter Hours Credit 6.
Prerequisite: None
Corequisite: WLD 1101

AHR 1123 - Fundamentals of Air Conditioning
Principles of air-cooled air conditioning systems operation including room cooling units and split and packaged air-to-air systems. Emphasis is placed on terminology, components, and the measuring and control of factors affecting air movement and cleaning, temperature and humidity control. Students will learn how to calculate the cooling comfort needs of a conditioned space; use psychrometric charts to determine equipment performance needs to produce optimum temperature and humidity control; and how manufacturers' performance specifications are utilized to determine air distribution system requirements.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisites: AHR 1121, WLD 1101

AHR 1129 - Applied Electricity for Heating, Ventilation and Air Conditioning Systems
This course will cover the use of test instruments and equipment used in servicing electrical apparatus installation for air-conditioning and heating systems. Emphasis is placed on electrical principals and procedures for troubleshooting the various electrical devices used in air-conditioning and heating equipment. Student will learn how to use test instruments to analyz performance and troubleshoot switches, electrical heating devices, and wiring.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: ELC 1150 Corequisite: ELC 1151

AHR 1132 - Air-Conditioning Servicing
Installation, routine servicing, problem diagnosis, and repair air-cooled air conditioning systems. Emphasis is placed on the correct methods for locating, assembling, wiring, connecting to duct systems, charging, and system start-up and performance checks. Additional emphasis is placed on systematic problem diagnosis and repair procedures for refrigeration, electrical, and control system malfunctions. Students will learn how to properly install, perform routine service maintenance on, evaluate the cooling performance of, and apply systematic problem diagnosis and repair procedures to room cooling units and split and packaged systems.
Course Hours Per Week: Class 3, M. Lab 12. Quarter Hours Credit 7.
Prerequisites: AHR 1129, AHR 1121, WLD 1101
Corequisite: AHR 1123

AHR 1135 - Applied Electronics for Heating, Ventilation and Air Conditioning Systems
Common electronic control components utilized in HVAC systems. Emphasis is placed upon identifying different electronic components and their functions in HVAC system and motor drive control circuits. Students will learn how to identify these components, describe their functions in control circuitry, and to use test instruments to measure electronic circuit values and to identify malfunctions.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisites: ELC 1150, AHR 1129, ELC 1151

AHR 1138 - All-Weather Systems: Conventional
Principles of combination heating and cooling systems including gas-electric, all electric, oil-electric, and other combination systems. Emphasis is placed on proper safety and operational controls, selection and assembly of components, and installation of a complete all weather system. Students will learn how to construct, test, evaluate the performance of, and adjust all-weather conventional systems. In addition, students will learn how to solve service problems and to modify and/or repair an improperly installed system.
Course Hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Prerequisites: AHR 1115, AHR 1113, AHR 1123, AHR 1132, AHR 1129

AHR 1139 - All-Weather Systems: Heat Pumps
Principles of installation, service, and repairing of air-to-air heat pumps. Emphasis is placed on the different refrigeration cycles, selections of the components of a complete system, proper application and installation practices, and service procedures for air-to-air heat pump systems. Students will learn how to properly size and install a complete system, perform routine service procedures, analyze performance, and to apply systematic problem diagnosis and repair procedures.
Course Hours Per Week: Class 4, M. Lab 9. Quarter Hours Credit 7.
Prerequisites: AHR 1113, AHR 1132, AHR 1121

AUT 1120 - Automotive Analysis
An analytical approach to troubleshooting and preventive maintenance through the use of mechanical equipment, electronic instrumentation, and visual inspection will be studied. Students will train on various electronic analysis equipment (chassis dynamometer, combustion analyzer, etc.) for proper troubleshooting diagnosis. Students will be instructed in procedures to be followed in troubleshooting analysis of an internal combustion engine, brakes, steering and suspension, electrical circuits, and drive lines.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

AUT 1121 - Braking Systems
A complete study of the various braking systems employed on automobiles and lightweight trucks will be covered. Emphasis is placed on braking systems, how they operate, proper adjustment and repair, and safety factors involved.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4
Prerequisite: None

AUT 1123 - Automotive Chassis and Suspension Systems
This course includes the principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension and steering systems will be covered. Units to be studied: shock absorbers, springs, steering systems, steering linkage, and front end alignment.
Course Hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Prerequisite: None

AUT 1124 - Automotive Power-Train Systems
This course will include the principles and functions of automotive power train systems: clutches, transmission gears, torque converters, drive shaft assemblies, rear axles, and differentials. Identification of troubles, servicing, and repair will be covered.
Course Hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Prerequisite: None

AUT 1125 - Automotive Servicing
Emphasis is on the shop procedures necessary in determining the nature of troubles which may develop in the various component systems of the automobile. Troubleshooting of automotive systems, providing a full range of experiences in testing, adjusting, repairing, and replacing will be covered.
Course Hours Per Week: Class 3, M. Lab 9. Quarter Hours Credit 6.
Prerequisite: None

AUT 1126 - Schematics and Diagrams: Automotive
Emphasis is placed on interpretation and reading of manufacturing diagrams. Student will develop the ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes will be covered.
Course Hours Per week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: None

AUT 1129 - Emission Systems: Automotive
The purpose of this program is to provide a basic knowledge of what the various Emission Control Systems are and how they operate. Once the basics of these systems are understood, the knowledge can be applied to specific applications which the student will use to handle future changes in Emission Control Systems. Topics to be covered are Air Pollution, Major Pollutants, Photochemical Smog, Hydrocarbon, Carbon Monoxide, oxides of Nitrogen, particulates, Air Pollution legislation and regulatory agencies, and automotive emission controls.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

BIO 1002 - Anatomy and Physiology
This course is designed to help the student gain a beginning knowledge of heredity, including an understanding of the cell, tissues, organs, and organ systems. An introduction to bacteriology will be given and body defenses, including the types of immunity. Detailed instruction will be given in learning the systems of the body.
Course Hours Per Week: Class 6. Quarter Hours Credit 6.
Prerequisite: None

BIO 1003 - Introduction to the Human Body
This course is designed to help the student gain knowledge about the human body. The types of health are identified as they relate to nurses and patients. Useful signs in the evaluation of health or deviations from health are explained. Lectures will be given on heredity, introductory bacteriology and immunity. Detailed information will then be given on each system of the body.
Course Hours Per Week: Class 6. Quarter Hours Credit 6.
Prerequisite: None

BUS 1103 - Small Business Operations
This course is an introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business and employer - employee relations.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

CAR 1101 - Carpentry (Rough)
This course is a brief history of carpentry. Present trends of the construction industry will be covered along with the operation, care, and safe use of the carpenter's hand and power tools used in cutting, shaping, and joining construction materials used by carpenters. Carpentry layout and framing basics will be emphasized in this course.
Course Hours Per Week: Class 6, M. Lab 12. Quarter Hours Credit 10.
Prerequisite: None

CAR 1101-A - Carpentry (Rough)
This is a basic summary course in residential construction which will cover such topics as: tools needed in light construction, construction materials, leveling instruments, building layout, plans and codes, footings and foundations, floor framing, wall and ceiling framing, roof framing, roofing materials, windows and exterior doors, exterior wall finish, thermal and sound insulation, interior wall and ceiling finishing, finish flooring, and doors and interior trim. This course will provide information so that the student can plan for new construction or renovation.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

CAR 1101-B - Carpentry (Rough)
Present trends of the construction industry will be covered along with the operation, care, and safe use of the carpenter's hand and power tools. Practice in cutting, shaping, and joining construction materials used by the carpenter will be emphasized. A thorough discussion and assigned lab activities in building layout and construction of foundations will be covered.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: CAR 1101-A

CAR 1101-C - Carpentry (Rough)
This course will cover types of framing for residential construction, both platform and balloon framing. Post and beam construction will also be covered. Basic floor framing for platform construction will be covered and lab assignments made to reinforce this learning.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: CAR 1101-B

CAR 1101-D - Carpentry (Rough)
Present trends of the construction industry will be covered along with the operation, care, and safe use of the carpenter's hand and power tools. In this course, emphasis will be placed on wall and roof framing and those procedures needed to build a residential home.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: CAR 1101-C

CAR 1102 - Carpentry (Framing)
Emphasis is placed on practical application in rough carpentry which consists of: framing, roofing, window and exterior door installation, exterior wall covering, exterior trim, and form work. Roof layout and framing will be emphasized in this course.
Course Hours Per Week: Class 5, M. Lab 15. Quarter Hours Credit 10.
Prerequisite: None

CAR 1103 - Carpentry (Finishing)
Millwork as performed by the general carpenter during building construction using shop tools and equipment will be emphasized in this course. Practical applications will include measuring, layout, and construction of door and window frames, stairs, interior and exterior cornice and trim work. Prefabricated materials will also be covered. Exterior and interior trim and finishing carpentry will be studied.
Course Hours Per Week: Class 4, M. Lab 21. Quarter Hours Credit 11.
Prerequisite: None

CAR 1110 - Modern Yacht Joiner Practices I
In this course the student will learn the necessary skills to rough-in the interior bulkheads, soles, furniture, and cabinetry in the modern yacht.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: MSC 1110

CAR 1111 - Modern Yacht Joiner Practices II
This course is an extension of Modern Yacht Jointer Practices I. Emphasis is placed on the finished woodworking and trim. Doors, drawers, and moldings will be constructed. Production jigs to increase efficiency will be utilized. Modern oils, paints, and varnish applications will be practiced.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisite: CAR 1110

CAR 1114 - Yacht Repair and Renovation
This course introduces repair principals and methods for wood and fiberglass boats.
Course Hours Per Week: Class 4, M. Lab 9. Quarter Hours Credit 7.
Prerequisite: MSC 1112

CAR 1135 - Blueprints and Field Coordination
Construction blueprints will be studied and field trips will be made to construction sites in order that students may gain first-hand experience reading project blueprints of jobs under construction presently by contractors. Estimating and actual work procedure will be emphasized in this course.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

DFT 1104 - Blueprint Reading
Students will study interpretation and reading of blueprints. Information is provided on the basic principles of the blueprint: lines, views, dimensioning procedures and notes.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

DFT 1105 - Blueprint Reading
Emphasis is placed on further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operation, introduction to drafting room procedures; sketching as a means of passing on ideas, information and processes.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: DFT 1104.

DFT 1106 - Blueprint Reading
Students will study advanced blueprint reading and sketching as related to detail and assembly drawings used in machine shops. The interpretation of drawing of complex parts and mechanisms for features of fabrication, construction, and assembly is included.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: DFT 1105

DFT 1108 - Blueprint Reading
This is a general course in interpreting blueprints. Analysis of electrical and pneumatic systems will be emphasized. Mechanical devices including piping, machines, gears, and system color coding will be introduced.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: DFT 1104

DFT 1109 - Blueprint Reading
This is a general course in interpretation of blueprints. Analysis of electrical and plumbing systems will be emphasized. Mechanical devices including heat and air, insulation, structure design, and system color coding will be introduced.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: DFT 1104

DFT 1110 - Building Trades Blueprint Reading and Sketching
Emphasis is placed on principles of interpreting blueprints and trade specifications common to the building trades. Students develop proficiency in making plan and pictorial sketches.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

DFT 1112 - Blueprint Reading: Welding
Emphasis is placed on a thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications are introduced.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

DFT 1113 - Blueprint Reading: Building Trades
Emphasis shall be placed upon reading and understanding all aspects of actual blueprints and the interpretation expected by the architect. Dimensions, symbols, special specifications, etc. are to be emphasized in this course.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

DFT 1117 - Blueprint Reading: Welding
This is a continuation of DFT 1112 which embodies a thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications will also be studied.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: None

DFT 1120 - Blueprint Reading of Pipe Drawings and Pipe Sketching
Students will learn basic principles and methods of reading; reading and dimensioning pipe drawings with emphasis on piping relating to welders.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: None.

DFT 1127 - Marine Drafting
Students will learn how to read and understand boat plans. Each student will develop a lines plan from a table of offsets using standard marine drafting equipment. There will also be projects designed to give the student practical experience in interpreting blueprints.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: None

DFT 2001 - Computer Aided Design
This course introduces the student to the use of computers for designing mechanical devices. The student will utilize personal computers to design mechanical objects and prepare necessary drawings for manufacture. The geometry data will then be transferred to the Computer Aided Manufacturing (CAM) system for use in programming numerical control (CNC) codes machine tools.
Course Hours Per Week: Class 2, Lab 4. Quarter Hours Credit 4.
Prerequisite: DFT 1106 or instructor's permission

EDU 1006 - Language Arts in Early Childhood
This course deals with the child and his or her social environment. Emphasis is on the use of a variety of teaching techniques which will stimulate language development and an awareness of the child's social environment and social learnings.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1009 - Art in the Early Childhood Program
This course is a study of art media in relation to the creative process in young children, of the educational component that each medium reinforces, and of the ways a variety of low-cost art activities can be incorporated into a program for young children. Laboratory sessions provide first-hand experience with all of the media, opportunities to explore the uses of each, and practice in the care and storage of materials. Each student will plan a meaningful sequence of art activities which could be incorporated into a program for young children.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: None

EDU 1022 - Mathematics and Science for Young Children
This course deals with the child and his or her physical environment. Emphasis is on a variety of teaching techniques designed to stimulate an interest in and an understanding of simple mathematics and science concepts by young children. Activities appropriate for children at different levels of development will be discussed.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1101 - Child Growth and Development (Infant-Toddler 0-24 months)
This course will study the development from birth to age two and study the problems specific to group care of children in this age group. Each student will develop a plan of care for a group of children; the plan must reflect concern for the child's total development and show procedures for dealing with the practical problems of providing safe care for children 0-24 months.
Course Hours Per Week: Class 3. Quarter Hours Credit: 3
Prerequisite: None

EDU 1102 - Child Growth and Development (Preschool 2-5 years)
This course deals with the basic principles of development and the developmental sequence of preschool aged children (2-5 years old). This age group will be examined in-depth with emphasis being given to factors influencing development.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1103 - Music and Integrated Activities
This course is designed to develop an awareness of the fundamentals of music; skill in utilizing a wide variety of materials for rhythm, singing, and instrumental performance; and use of creative movement and music for emotional expression and learning.
Course Hours Per Week: Class 1, Lab 2. Quarter Hours Credit 2.
Prerequisite: None

EDU 1105 - Health, Safety, and Nutrition of the Young Child
This course is designed to promote an understanding of factors which influence physical and emotional health and nutrition during infancy and childhood. Classroom activities focus on practices and procedures for promoting good health, safety, and nutrition among children in group care. The influence of child care workers on health, safety, and nutrition in a group care situation is emphasized throughout the course.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1106 - Nutrition/Cooking Experience
This course is designed to promote an understanding of basic nutritional concepts. This nutrition information will enhance the student's ability to provide cooking experiences for his or her curriculum planning in the classroom.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1111 - Communicating Effectively with Young Children
This course is a study in interpersonal communication between the child care worker, parents, other staff, and children. The student will acquire the abilities of speaking openly and frankly without alienating. Being a skillful listener, receiving and accepting suggestions, giving additional insights, and communication techniques will be studied in this course.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1113 - Early Childhood Curriculum Planning: Social Studies and Special Holidays
This course is designed to help students provide opportunities for children to understand, acquire and use verbal and non-verbal means of communicating thoughts and feeling. Students will have an opportunity to design learning episodes that will help children develop their communication skills by providing planned opportunities for children to listen, interact, and express themselves with other children and adults.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1115 - Early Childhood Curriculum Planning: Construction, Physical, and Blocks
This course will assist students in learning to provide a variety of equipment, activities, and opportunities to promote the physical development of children.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1116 - Early Childhood Curriculum Planning: Cognitive
In this course the student will learn how to design and implement activities and experiences that develop questioning, probing, exploration, and problem-solving appropriate to the developmental levels and learning styles of children.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1118 - Operation of Child Care Programs
This course is designed to assist students in establishing policies and procedures for the operation of a center for the daily group care of young children. Financial and Managerial day-care skils will be stressed.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1122 - Guiding Children's Behavior
This course is designed to help the student develop an understanding of discipline as an educational tool for the young child. It is important for the early childhood teacher to develop an attitude of positive interaction with children and other adults in order to foster growth of positive behavior in young children.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1125 - Working with Parents
The purpose of this course is to learn how to have open, positive, and meaningful communication between staff and parents. Also, to help promote understanding and sharing of responsibilities to actively involve parents in their child's preschool/day-care experience, including activities for the working parent.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1130 - Introduction to Preschool Education
This course will cover the philosophy of early childhood education, the types of experiences, facilities, and media which will promote optimal development of each child. Licensing and Approval Standards will be explored. Opportunities to compare a variety of early childhood programs will be provided.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1138 - Program Planning for Infants and Toddlers
This course is designed to provide students with an awareness of the basic principles of early childhood education and trends from theory, practice, and research that have contributed to the development of programs for infants and toddlers; programming approaches used in day cares; an organized collection of development concepts specific for programmers, teacher, and caregiver roles; behavioral descriptions; suggestions for settings and activities from which the teacher-caregiver can select and learn; infant/toddler programming issues and problems; and features from a variety of infant/toddler program models.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1148 - Infant-Toddler Care
This course provides a study of techniques and problems specific to the care and guidance of infants and toddlers. The provision of consistent, nurturing care, appropriate stimulation, and arrangement of the environment will also be addressed.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

EDU 1203 - Exceptional Children
This course is designed to guide the student in a study of children with developmental variations requiring modification in activities. Consideration is given to recognition of problems, community resources, and appropriate activities for the child with exceptional deviations in mental or physical development.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

ELC 1100 - Basic Electricity
This course is an introduction to basic principles of electricity, basic electric units and symbols, Ohm's Law, and the use of electrical measuring instruments. This course is not as in-depth as ELC 1104, Basic Electricity.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

ELC 1101 - Practical Marine Electricity
Emphasis is placed on an understanding of the basic 12-volt (DC) direct current electrical system from boat batteries. The (AC) alternating current system which is on some small vessels is also discussed. The installation and wiring of the various lights, electrical instruments and electric motors on a boat is studied in great detail. Safety is stressed throughout the course.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

ELC 1104 - Basic Electricity I
This course gives an introduction to basic theories and principles of electricity, as well as to basic electric units, symbols, and Ohm's Law regarding series and parallel circuits.
Course Hours Per Week: Class 5, M. Lab 9. Quarter Hours Credit 8.
Prerequisite: None

ELC 1104-A - Electricity I
This course gives an introduction to basic theories and principles of electricity, as well as to basic electric units, conductors, and insulators.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisite: None

ELC 1104-B - Electricity I
This course gives an introduction to basic theories and principles of electricity, as well as to basic electric units, conductors, and insulators.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisite: ELC 1104-A

ELC 1105 - Basic Electricity II
This course gives an introduction to alternating current theory, sine wave generation and analysis, induction, reactance, impedance, phase relations, transformers, and power factor corrections.
Course Hours Per Week: Class 5, M. Lab 9. Quarter Hours Credit 8.
Prerequisite: ELC 1104

ELC 1109 - Electrical Wiring
This course gives an introduction to basic theories and principles of electricity, as well as basic units, symbols, and Ohm's Law regarding series and parallel circuits. The course also gives a basic principle of residential and commercial wiring according to National Electrical Codes and area building codes.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

ELC 1111 - Direct and Alternating Electricity
This course provides a thorough study of the electrical system of the equipment powered by gas and diesel engines. Battery cranking mechanisms, generators and alternators, ignition systems, accessories and wiring special tools, and use of testing equipment for electrical systems are covered.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: None

ELC 1115 - AC and DC Machinery
AC and DC motors, generators, voltage and current regulators, speed control, reversing and braking systems, and characteristics are studied. The student will physically set up and wire various systems and then collect data to determine characteristics and efficiency of system.
Course Hours Per Week: Class 4, M. Lab 9. Quarter Hours Credit 7.
Prerequisite: ELC 1104

ELC 1116 - Motor Control
This course is an introduction to control components, i.e., contractors, motor starters, pilot devices, code considerations, types of control, control circuits, analysis of control circuits, maintenance and troubleshooting of motor and control circuits including solid state.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: ELN 1111

ELC 1117 - Industrial AC Motors and Controls
This course will cover the fundamental concepts in single and polyphase circuits, machines, and controls. Instruction in the use of electrical test equipment in circuit analysis and troubleshooting will be given with practice in wiring electrical motors and motor control centers. Emphasis on OSHA safety regulations in the field of industrial electricity will also be given.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: ELC 1100

ELC 1125 - Industrial Wiring Practices
Wiring methods in industrial complexes are covered, including wire sizing, splicing, and code. Raceways, wireways, and duct systems are introduced. Accepted methods of wiring motors, motor starters, relays, and transformers are emphasized.
Course Hours Per Week: Class 4, M. Lab 6. Quarter Hours Credit 6.
Prerequisite: ELC 1111

ELC 1150 - Basic Electricity
A study of the basic electrical principles and components needed for troubleshooting modern machines. A basic study is made of direct and alternating current and electrical distribution in series and parallel circuits. The students become familiar with the following electrical terms: insulators, conductors, semi-conductors, coil, relays, soleniods and polarity, safety with the use of electricity, and electrical devices is stressed at all times.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: None

ELC 1151 - Applied Wiring Diagrams
Common electrical control components with an emphasis on their function in a control circuit and the symbols utilized to identify them in wiring diagrams. Students will learn how to read wiring diagrams in order to identify and describe the functions of the control components and to diagnose and repair component malfunctions in an electrical control system.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

ELN 1106 - Instrument Familiarization
Students will learn the functional use of various tools and test equipment used in the electrical field.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: None

ELN 1111 - Electro-Mechanical Relays and Symbols
This course is an introduction to various types of relays (AC and DC), operating principles and characteristics. Various relay symbols are introduced. Maintenance and construction of relays are studied.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: ELN 1106

ELN 1130 - Solid State Devices, Circuits, and Symbols
This course is an introduction to the theory and applications of solid state devices used in industry, especially solid state control circuits for motors and related equipment. Basic transistor circuits, vacuum tubes, and basic vacuum tube circuits are covered. Programmable control systems are examined and programmed.
Course Hours Per Week: Class 5, M. Lab 6. Quarter Hours Credit 7.
Prerequisites: ELC 1105, DFT 1104, ELN 1111

ENG 0080 - Basic Communication Skills
This course is designed to improve the student's basic English skills through concentrated work on usage, spelling, and fundamentals of grammar and punctuation. It emphasizes the writing of clear and mechanically correct sentences. Laboratory work may be required.
Course Hours Per Week: Class 5. Institutional Hours Credit 5. (Does not apply toward graduation.)
Prerequisite: None

ENG 1101 - Communication Skills
This course covers the basics of communication and their application to on-the-job activities. The student is introduced to memos, work estimates, work orders, necessary forms and records, and the writing of effective letters, including the application letter and resume. Emphasis is placed on descriptions and giving directions.
Course Hours Per Week: Class 2. Quarter Hours Credit 2.
Prerequisite: None

ENG 1102 - Communication Skills
This course covers the task skills involved in preparing for and undergoing an interview for a job. It also covers visualizing concepts and data, finding references through library use, taking notes, and organizing, writing, and presenting orally a report related to the student's field of study.
Course Hours Per Week: Class 2. Quarter Hours Credit 2.
Prerequisite: ENG 1101

ENG 1103 - Grammar
This course will offer the student an opportunity to learn parts of speech, sentence structure, and paragraph formation, which will assist in improving communication and writing skills.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

FBG 1101 - Fiberglass Mold Making
Students will be introduced to the basics of constructing male and female molds for fiberglass production.
Course Hours Per Week: Class 4, M. Lab 9. Quarter Hours Credit 7.
Prerequisite: MSC 1112

HEA 1119 - First Aid
This course is designed to prepare a student for certification in first aid by the American Red Cross. The student will learn such things as: how to identify symptoms of certain diseases, how to identify poisonous plants, and how to handle common emergencies, etc.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

MAS 1101 - Masonry
The history of the bricklaying and the masonry industry, raw materials, terminology, clay and shell brick, concrete block, mortar, laying foundations, cutting masonry materials, bonding, and the use, care, and maintenance of tools will be covered. Practice is given in selecting the proper mortars, layout, and construction of various building elements using brick and concrete block in order to develop skills in these areas.
Course Hours Per Week: Class 5, M. Lab 15. Quarter Hours Credit 10.
Prerequisite: None

MAT 1101 - Trade Mathematics
This course is designed to enhance the mathematical capabilities of each student. The general context of the course will be the coverage of the four basic operations working in the areas of whole numbers, common fractions, and decimals. The principles of prime numbers, dimensional analysis, percentage, ratios and proportions will also be covered. The course endeavors to use practical problems where possible.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

MAT 1102 - Trade Mathematics
This course further enhances the mathematical capabilities of the student through the study of powers and roots of numbers, solutions and manipulations of formulas, first and second degree equations, linear measure, areas and volumes of regular geometric figures. Practical word problems are used in all areas of study where applicable.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 1101

MAT 1122 - Machinist Mathematics I
This course is designed to acquaint the machinist with the mathematical tools most useful to the trade. The areas of Metric Measurement, Ratio and Proportion, Basic Trigonometry, and Fundamental Geometry are utilized in the light of practical machine trade problems.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 1102

MAT 1123 - Machinist Mathematics II
This is the second of two mathematic courses designed to acquaint the machinist with the mathematical tools most useful to the trade. The course will enhance the topics of the first course. The content herein will also cover the topics of indexing, Helix angles, angle measuring of various types, cutting speeds, plus some time in numerical control familiarization.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 1122

MAT 1125 - Industrial Calculations
This course is designed to improve the Industrial Electricity student's ability to solve problems relating to his or her field. Topics covered will include a review of series, parallel and combination circuits, power wire sizes, and lines losses. Also included will be mathematics related to alternating current fundamentals including square root, Pythagorean Theorem, and practical trigonometry. Specific problems related to the electrical code book will also be discussed when applicable.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 1101

MAT 2000 - Math for Manufacturing
This course reviews geometric concepts and extends trigonometric concepts to include oblique triangles with application to practical shop problems. Topics include geometric propositions and trigonometry of right and oblique triangles (the sines and cosines laws). Upon completion, students will be able to apply both geometric and trigonometric concepts in the solution of problems encountered in the machine shop.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: MAT 1123 or instructor's permission

MDE 1101 - Marine and Diesel Engines Theory and Practice I
This course covers the principles of main propulsion of vessels, heavy equipment, and trucks employing internal combustion engines. Construction and various designs of the operational principles of two- and four-cycle internal combustion engines and their related piping systems, cooling, and lubrication are covered. Also, procedures for "lighting off" will be covered.
Course Hours Per Week: Class 2, M. Lab 12. Quarter Hours Credit 6.
Prerequisite: None

MDE 1101-A - Marine and Diesel Engine Theory and Practice I
This course covers introduction and various designs of the two- and four-cycle internal combustion engines.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MDE 1101-B - Marine and Diesel Engine Theory and Practice I
This course covers the principles of main propulsion of vessels, heavy equipment, and trucks employing internal combustion engine.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: MDE 1101-A

MDE 1101-C - Marine and Diesel Engine Theory and Practice I
This course will cover related parts of the cylinder block of the two- and four-cycle engine; lubrication and cooling will be covered in relationship to these parts.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: MDE 1101-B

MDE 1101-D - Marine and Diesel Engine Theory and Practice I
This course will cover the cylinder head and all the moving parts related to the two- and four-cycle engine including lubrication, cooling, and piping systems.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: MDE 1101-C

MDE 1102 - Marine and Diesel Engines Theory and Practice II
This course deals with two-cycle diesel engines that are used for propulsion of vessels and heavy equipment and trucks. In the construction and design of various two-cycle engines and their related system, cooling lubrication and air intake systems are covered. Procedure for "lighting off" and preventive maintenance will be discussed.
Course Hours Per Week: Class 3, M. Lab 12. Quarter Hours Credit 7.
Prerequisite: None

MDE 1103 - Marine and Diesel Engines Theory and Practice III
This course deals with the administration of gasoline and diesel engineering plants through the recording and filing of performance data. The course is also a continuation of two- and four-cycle engines, and rebuilding, which includes preventive maintenance and periodic checks of diesel engines. This course will cover in great detail troubleshooting of two- and four-cycle engines.
Course Hours Per Week: Class 3, M. Lab 15. Quarter Hours Credit 8.
Prerequisite: None

MDE 1104 - Marine and Diesel Power-Train Systems I
This course is a study of principles and functions of Marine and Diesel Power-Train Systems and disassembly and assembly of clutches, torque converters, torque dividers, fluid couplings, manual transmissions, planetary systems, and automatic transmissions.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MDE 1105 - Marine and Diesel Power-Train Systems II
This course is a study of principles and functions of Marine and Diesel Power-Train Systems and disassembly and assembly of marine gears, drive lines, final drives, differentials, and rear axles.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MDE 1108 - Gas and Diesel Fuel Systems I
This course provides a thorough study of the fuel systems of the marine and diesel engines, fuel pumps, carburetors, fuel injection pumps and air intake systems. Characteristics of fuels, types of fuel systems, special tools and testing equipment for the fuel systems of marine and diesel engines are studied.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

MDE 1109 - Gas and Diesel Fuel Systems II
This course is a continuation of the study of fuel systems injection pumps. Characteristics of fuels, types of fuel systems, special tools and testing equipment for the fuel systems of marine and diesel engines will be covered.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

MDE 1110 - Gas and Diesel Fuel System III
This course is a continuation of the study of fuel systems and injection pumps. Characteristics of the types of fuel systems, special tools, and test equipment for the fuel systems of marine and diesel will be covered.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

MEC 1101 - Machine Shop Theory and Practice
This course is an introduction to the machinist trade and the potential it holds for craftsmen. It deals primarily with the identification, care, and use of basic hand tools and precision-measuring instruments. Elementary layout procedures and processes of lathe, drill press, grinding (off-hand) and milling machines will be introduced both in theory and practice.
Course Hours Per Week: Class 3, M. Lab 15. Quarter Hours Credit 8.
Prerequisite: None

MEC 1101-A - Machine Shop Theory and Practice
This course is an introduction to the machinist trade and the potential it holds for craftsmen. Deals primarily with safety precautions in machine shops and introduction to machine tools.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MEC 1101-B - Machine Shop Theory and Practice
This course is an introduction to linear measurements, fractions, and decimals. Deals primarily with the identification, care, and use of basic hand tools and precision-measuring instruments.
Course Hours Per Week: Class 1, M. Lab 6. Quarter Hours Credit 3.
Prerequisite: MEC 1101-A

MEC 1101-C - Machine Shop Theory and Practice
This course deals primarily with elementary layout procedures and processes of lathe, drill press, grinding (off-hand); milling machines will be introduced both in theory and practice.
Course Hours Per Week: Class 1, M. Lab 6. Quarter Hours Credit 3.
Prerequisite: MEC 1101-B

MEC 1102 - Machine Shop Theory and Practice
Students will study advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine, and shaper. The student will be introduced to the basic operations on the cylindrical grinder and will select projects encompassing all the operations, tools, and procedures thus far used and those to be stressed throughout the course.
Course Hours Per Week: Class 3, M. Lab 15. Quarter Hours Credit 8.
Prerequisite: MEC 1101

MEC 1103 - Machine Shop Theory and Practice
Students will study advanced work on the engine lathe, turning, boring and threading machines, grinders, milling machine and shaper. Course includes introduction to basic indexing and terminology with additional processes on calculating, cutting and measuring of spur, helical, gears and, wheels. The trainee will use precision tools and measuring instruments such as vernier height gages, protractors, comparators, etc. Basic exercises will be given on the turret lathe and on the tool and cutter grinder. Also, introduction to C.N.C. programming for turning and milling with digital readouts.
Course Hours Per Week: Class 3, M. Lab 15. Quarter Hours Credit 8.
Prerequisite: MEC 1102

MEC 1104 - Machine Shop Theory and Practice
Emphasis is placed on development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Additional processes on the turret lathe, tool and cutter grinder, cylindrical and surface grinder, advanced milling machine operations, etc. Special procedures and operations, processes and equipment, observing safety procedures faithfully, and establishing good work habits and attitudes acceptable to the industry. Fundamentals in computer-controlled machine tool programs, operation, and setup. Heat treating of steel and steel alloys as it relates to the machinist is included in this course.
Course Hours Per Week: Class 4, M. Lab 12. Quarter Hours Credit 8.
Prerequisite: MEC 1103

MEC 1109 - Computer Controlled Machine Tools I
This course is an introduction to computerized numerical controlled machine tools. It deals primarily with numerical control and computerized numerical control machine tools as used in modern industry. The student will be introduced to simple part programs, setups, and operation of the computerized numerical control lathes and mills.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisite: MEC 1102 or permission of instructor

MEC 1110 - Computer Controlled Machine Tools II
Students will study and develop part programs for computer numerical control lathes and mills. Emphasis will be placed on programming, setup, and operation of computer numerical control lathes and mills. Also the student will be introduced to computer aided design and computer aided manufacturing (CAD-CAM) as used in modern industry.
Course Hours Per Week: Class 2, Lab 2. Quarter Hours Credit 3.
Prerequisites: MEC 1103, MEC 1109

MEC 1113 - Shop Processes I
This course is a study of practices used in metalworking shops. Introduction to how materials can be utilized and to the processes of shaping, forming, and fabricating metals. Demonstration of the metalworking lathes, grinders, drills, milling machines, shapers, planers, saws, broachers, gear-cutting machines, and finishing machines. Students will study the capabilities of these machines.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisites: None

MEC 1114 - Shop Processes II
This course will cover the comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metalworking processes are demonstrated and discussed. Mass-projection methods are studied in relationship to precision dimensional control.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: MEC 1113

MEC 1121 - Industrial Hydraulics I
This course covers the fundamentals of hydraulics and its uses in industry. A study of power transmission through hydraulics, the course will cover components and their function, pumps (gears and vanes), cylinders, and control valves.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

MEC 1122 - Industrial Hydraulics II
A continuation of MEC 1121, this course will cover industrial hydraulic circuits and components including governors, valve control and instrument control in detail.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: MEC 1121

MEC 1127 - Industrial Mechanics I
This course is an introduction to the nature of work required of an industrial mechanic and his role in industry. It will deal with the identification, care, and use of basic hand tools used by a maintenance mechanic, including portable power tools and measuring devices. Also included are special tools and holding devices, methods of layout and fabrication, and threading and tapping. Benchwork such as filing, shaping, and forming metal parts will be practiced. OSHA standards will be stressed and will involve good housekeeping and shop safety.
Course Hours Per Week: Class 4, M. Lab 6. Quarter Hours Credit 6.
Prerequisite: None

MEC 1127-A - Industrial Mechanics I
This course is first of a two-part series. It is an introduction to the nature of work required of an industrial mechanic and his role in industry. Instruction will cover hand tools and measuring devices. Drilling and taping will be discussed. Safety and housekeeping will be stressed.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

MEC 1127-B - Industrial Mechanics I
This course will introduce the student to threading systems, taps, dies, and drill sizes. Holding devices will be discussed. Bench work will be performed. Filing, shaping, and layout of parts will be covered.
Course Hours Per Week: Class 2, M. Lab 3 Quarter Hours Credit 3.
Prerequisite: MEC 1127-A

MEC 1128 - Industrial Mechanics II
This course is a study of the various types of industrial piping systems and plumbing fixtures. It will cover types of pipe and fittings, methods of installation and repair, and include threading and pipefitting. Valves and other plumbing fixtures will be covered with emphasis on installation service and repair of existing systems.
Course Hours Per Week: Class 4, M. Lab 9. Quarter Hours Credit 7.
Prerequisite: None

MEC 1129 - Industrial Mechanics III
This course will cover the installation, repair, and servicing of mechanical power transmission equipment, including gears, belts, and roller chains. Basic rigging procedures and use of jacks, chain falls, and floor lifts will be covered. Emphasis will be on troubleshooting and routine maintenance tasks normally performed by the industrial mechanic.
Course Hours Per Week: Class 4, M. Lab 6. Quarter Hours Credit 6.
Prerequisite: None

MEC 1130 - Industrial Mechanics IV
This course will cover centrifugal and positive displacement type pumps and their principles of operation and theory. Training in assembly, parts replacement, packing and mechanical seal installation will be covered. Emphasis will be placed on motor pump alignment.
Course Hours Per Week: Class 5, M. Lab 9. Quarter Hours Credit 8.
Prerequisites: MEC 1127, DFT 1104

MEC 2010 - Introduction to Microcomputers
This course will introduce the student to microcomputers and their applications. Installing and configuring hardware using the disk operating system will be covered. Topics of study will include computer interfaces, special application cards, hardware compatibility and software applications for industry.
Course Hours Per Week: Class 5. Quarter Hours Credit 5.
Prerequisite: None

MEC 2012 - Turning Center Programming and Operation
This course will concentrate on advanced programming and operation of modern turning centers. Complex part programs using standard RS274D format will be studied in depth. Internal threading, external threading, multiple repetitive cycles and circular interpolation are some of the programming techniques that will be covered. Various operational techniques will be included.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: MEC 1110 or instructor's permission

MEC 2014 - Computer Aided Manufacturing I
This course is a study of computer aided manufacturing using the latest in microcomputer technology. Computer Aided Design (CAD) and Computer Aided Machining (CAM) software will be linked together to generate the numerical code necessary to machine complex parts on CNC machine tools. Each student will utilize the CAD/CAM system to manufacture a variety of parts on CNC turning centers and CNC milling machines. Complete documentation of each job setup and related materials.
Course Hours Per Week: Class 2, Lab 4. Quarter Hours Credit 4.
Prerequisite: MEC 1110 or instructor's permission

MEC 2015 - Computer Aided Manufacturing II
This course is a continuation of MEC 2014 in which advanced CAD/CAM technology will introduced. Complex parts will be manufactured in an industrial production environment with emphasis placed on cycle time and profitability of the machining process.
Course Hours Per Week: Class 2, Lab 4. Quarter Hours Credit 4.
Prerequisite: MEC 2014

MEC 2018 - Computer Numerical Control Milling Programming and Operation
This course concentrates on advanced programming techniques for Computer Numerical Control (CNC) milling operations. Complex multipart programs will be developed using standard RS274D format code. Helical interpolation, mirror image, cutter compensation and zero shift are some of the programming topics that will be included. Auxiliary functions and feed functions will be studied in depth.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: MEC 1110 or instructor's permission

MEC 2020 - Jigs and Fixtures I
This course is a study in the fundamental principles and uses of jigs and fixtures. The various types of jigs and fixtures and their identification will be studied. Processes of designing and manufacturing simple jigs and fixtures will also be covered.
Course Hours Per Week: Class 4, Lab 2. Quarter Hours Credit 5.
Prerequisite: MEC 1104 or equivalent experience

MEC 2021 - Jigs and Fixtures II
Students will put into practice the theory that was emphasized in Jigs and Fixtures I. Emphasis will be placed on the manufacture of jigs and fixtures to precise tolerances in the most economical manner possible.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisite: MEC 2020

MSC 1110 - Boatbuilding I
This course introduces the student to the safe and proper handling of power and hand tools in the boat shop. The sharpening, maintenance, and necessary adjustment of tools is stressed so that the student can realize optimum results from the equipment. Also, the student will be introduced to lofting and building a simple flat bottomed boat.
Course Hours Per Week: Class 5, M. Lab 12. Quarter Hours Credit 9.
Prerequisite: None

MSC 1111 - Boatbuilding II
More advanced hull development will be approached in this course. A jig is constructed from plans that could be used to build a single fiberglass or wooden boat, or a plug from which a mold could be made. The student is introduced to modern fabrics, core materials, and resins used in the fiberglass industry.
Course Hours Per Week: Class 4, M. Lab 12. Quarter Hours Credit 8.
Prerequisite: MSC 1110

MSC 1112 - Boatbuilding III
This course will introduce the student to wood and glass lamination techniques. The students will build a small sandwich core fiberglass boat and practice the fairing process, as well as the application of modern marine finishes.
Course Hours Per Week: Class 3, M. Lab 12. Quarter Hours Credit 7.
Prerequisite: MSC 1111

NUR 1001 - Fundamentals of Practical Nursing
This course has been developed to introduce the student to practical nursing. The content will include the study of therapeutic communication skills, basic nursing skills, nursing procedures, problem-solving as a means of coping with life situations, and pre and port operative care.
Course Hours Per Week: Class 5, Lab 4. Quarter Hours Credit 7.
Prerequisite: None

NUR 1002 - Pharmacology
This course is designed to assist the student in learning how to give medications safely. Care will be given in teaching conversion methods using household, apothecary and metric measurements. Basic skills will be taught in administering medications. Demonstrations by instructors and return demonstrations by students will be done in a lab facility.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

NUR 1003 - Medical-Surgical Nursing I
This course has been developed to help the student care for patients throughout adulthood including senescence. The emphasis will be on patients with orthopedic, dialuric, cardiac, skin, respiratory and highly communicable conditions, including malignancies. Students will be responsible for identifying medications and therapeutic diets related to the conditions as well as meeting the nursing needs of the patients with theses conditions. Clinical activities will be provided in order for each student to apply skills and information learned in class.
Course Hours Per Week: Class 5, Lab 2, Clinical 12. Quarter Hours Credit 10.
Prerequisite: Completed all First Quarter courses

NUR 1004 - Obstetrics
This course has been developed to give the student an understanding of the fundamentals of maternity nursing. The student will be expected to review normal anatomy and physiology of the reproductive system as well as the other systems that play roles in obstetric nursing. The student will study about the needs of the normal newborn and premature infant. The student will have an opportunity to assist with pre-natal visits; assist in the care of mothers during labor and delivery, and participate in caring for mothers and babies in a nursery. Selected clinical experiences will enable the student to better apply classroom learning.
Course Hours Per Week: Class 3, Clinical 6. Quarter Hours Credit 5.
Prerequisite: Completed all First Quarter courses

NUR 1005 - Medical-Surgical Nursing II
This course is designed to assist the student in caring for patients with neurological and urinary disorders and malignacies related to these disorders. The student will be expected to identify the medications for each assigned patient and the ordered dietary regime. Concentration will be on adult care from adolescence through senescence. Clinical experience will be provided in order for each student to apply knowledge and skills learned in class.
Course Hours Per Week: Class 5, Clinical 6. Quarter Hours Credit 7.
Prerequisite: Completed all Second Quarter courses

NUR 1006 - Pediatrics
This course is designed to help the student learn about the fundamental concepts of pediatric nursing and about common and acute conditions in children. The student will be expected to apply knowledge about normal growth and development when caring for children. The student will be taught the major differences in pediatric and adult care. Clinical activities will be provided in order for the student to demonstrate skill in caring for the sick child.
Course Hours Per Week: Class 6, Clinical 9. Quarter Hours Credit 9.
Prerequisite: Completed all Second Quarter courses

NUR 1007 - Medical-Surgical Nursing III
This course is designed to assist the student in caring for the patient with gastro-intestinal, reproductive and mental disorders. There will also be experience with patients following thoracic surgery and patients in the medical outpatient clinic and emergency room. Continued experience with all stages of adulthood will be given. The student will be expected to demonstrate skills required of a graduate of the Practical Nursing curriculum.
Course Hours Per Week: Class 8, Clinical 15. Quarter Hours Credit 13.
Prerequisite: Completed all Third Quarter courses

NUR 1008 - Issues and Trends
This course is designed to help the advanced practical nursing student understand complex nursing situations, concepts of disaster assistance, and the role of a graduate from a Practical Nursing curriculum. It will also re-emphasize the need for gerontology as a part of the Practical Nursing curriculum.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: Completed all Third Quarter courses

NUT 1102 - Nutrition
This course has been developed to introduce the student to the normal dietary nutrients and to therapeutic diets used in the care of patients. A thorough view of all the nutrients with emphasis placed on food sources for specific conditions will also discussed. The student is expected to visit a grocery store and price various foods and then plan a menu for a family. Throughout the year, diet therapy continues to be stressed in patient care.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

PHY 1101 - Applied Science
This course is an introductory study of the properties of materials and the principles of electricity and magnetism. Topics included are measurement, solids, liquids, gases, electric circuits, electromagnetism, simple machines, and systems of measurement. This course is a lab course to furnish hands-on experience.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: None

PHY 1102 - Applied Science
A continuation of PHY 1101, this course views the simple machines along with power, energy, motion, and mechanical advantage. This is a lecture and lab course mainly designed for mechanical emphasis.
Course Hours Per Week: Class 3, Lab 2. Quarter Hours Credit 4.
Prerequisite: PHY 1101

PLU 1101 - Basic Plumbing
This course is designed for the Light Construction curriculum and is a study of the various types of residential piping systems and plumbing fixtures. It will cover types of pipe and fittings, methods of installation and repair, and include threading and pipefitting. Valves and other plumbing fixtures will be covered with emphasis on installation service and repair of existing systems.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

PME 1101 - Internal Combustion Engines
This course promotes the development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. It includes a study of the construction and operation of components of internal combustion engines, as well as the testing of engine performance, servicing and maintenance of pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems, proper lubrication, methods of testing, and diagnosing and repairing.
Course Hours Per Week: Class 3, M. Lab 15. Quarter Hours Credit 8.
Prerequisite: None

PME 1102 - Engine Electrical and Fuel Systems
A thorough study of the electrical and fuel systems of the automobile is made, including battery cranking mechanism, generator, ignition, accessories, and wiring, fuel pumps, carburetors, and fuel injectors. Characteristics of fuels, types of fuel systems, special tools, and testing equipment for the fuel and electrical system are also covered.
Course Hours Per Week: Class 5, M. Lab 15. Quarter Hours Credit 10.
Prerequisite: None

PME 1102-A - Engine Electrical and Fuel Systems
This course is a study of the automotive electric system and wiring system to include, alternators and automotive accessory systems. Students learn how to troubleshoot and repair these systems using special tools and testing equipment designed especially for automotive electrical diagnosis and repairs.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

PME 1102-B - Engine Electrical and Fuel Systems
This course is a study of the automotive cranking system to include starters, starter solenoids, ignition switch, drive mechanism, the neutral safety switch, and wiring which connects the components.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

PME 1102-C - Engine Electrical and Fuel Systems
This course is a study of the automotive battery and how it supplies current to operate the starting motor and the ignition system when the engine is being started and how the battery uses chemicals to produce electricity (D.C. electricity).
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

PME 1102-D - Engine Electrical and Fuel Systems
This course is a study of the automotive fuel systems, fuel storage, and supply systems; topics include carburetor and fuel injection, fuel pumps, (mechanical and electrical), fuel tank, filters, and fuel lines. Students learn how to troubleshoot and repair these systems, using special tools and equipment designed especially for automotive fuel systems diagnosis and repair.
Course Hours Per Week: Class 2, M. Lab 6. Quarter Hours Credit 4.
Prerequisite: None

PME 1131 - Schematics and Diagrams: Marine and Diesel
This course covers the interpretation and reading of blueprints. It promotes the development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on lines, views, dimensioning procedures, and notes will be covered.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

PME 1136 - Fundamentals of Hydraulics
The fundamentals of hydraulics and its use to transmit power are studied, including the following components and their function: pumps, lines, cylinders, valves, gauges and controls. Proper care, use, installation and storage of test equipment, minor repairs, assembly, removal and replacement of equipment are also covered.
Course Hours Per Week: Class 3, M. Lab 6. Quarter Hours Credit 5.
Prerequisite: None

PSY 1101 - Human Relations
This is a study of basic principles of the human behavior. The problems of the individual are studied in relation to society, group membership, and relationships within the work situation.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

PSY 1102 - Growth and Development
This course has been designed to give the student an understanding of normal growth and development including the ages and stages of personality development. The student will have an opportunity to view normal growth and development in the community by visiting a day-care center and nursing homes.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisites: Completed all First Quarter courses.

SOC 1112 - Families in American Culture
The student will examine the characteristics, problems, and issues of families in American culture. Emphasis will be on ethnic families. Special attention will be given to programs designed for the culturally and/or educationally deprived child.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

WLD 1101 - Basic Welding
Emphasis is placed on welding demonstrations by the instructor and practiced by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment are stressed. Practice will be given for arc welding and flame-cutting methods applicable to mechanical repair work.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

WLD 1102 - Basic Welding
Emphasis is placed on welding demonstrations by the instructor and practiced by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment are stressed. Practice will be given for arc welding and flame-cutting methods applicable to mechanical repair work.
Course Hours Per Week: M. Lab 3. Quarter Hours Credit 1.
Prerequisite: None

WLD 1104 - Basic Gas Welding
Safe and correct methods of assembling and operating the welding equipment applied to the cutting and assembling of the metal tubing utilized in air-conditioning, heating, and refrigeration systems. Practice will be given to brazing and soldering aluminum, copper, and steel tubing.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

WLD 1106 - Welding and Burning I
This course involves welding demonstrations by the instructor and practiced by students in the welding shop. The metallurgy of welding is discussed, as are safe and correct methods of assembling and operating the welding equipment. Practice will be given for surface welding and flame-cutting. Emphasis is placed on electric arc and gas welding methods applicable to mechanical repair work. Brazing is also covered.
Course Hours Per Week: M. Lab 6. Quarter Hours Credit 2.
Prerequisite: None

WLD 1107 - Welding and Burning II
This course is a continuation of WLD 1106, giving the students additional practice in arc welding which will improve their efficiency as a welder. Emphasis will be on safety and use of arc and gas welding equipment. Practice will include oxyacetylene welding, brazing, soft solder and silver solder as needed in mechanical, ship and dock repair work. Also, there will be a demonstration, by instructor, of Tig, Mig, and Plasma welding.
Course Hours Per Week: M. Lab 6. Quarter Hours Credit 2.
Prerequisite: WLD 1106

WLD 1119 - Basic Arc Welding and Oxy-fuel Cutting
Emphasis is placed on the operation of the different types of AC and DCn welding machines, and maintenance of welding machines. Studies are made on welding heats, polarities, and different types of welding electrodes used in joining various types of metals in the arc welding process. The set up and use of oxy-fuel cutting equipment is studied. After the student is capable of setting up welding equipment, practice weld beads will be made in all positions. Safety procedures are emphasized throughout the course in the use of tools and equipment.
Course Hours Per Week: Class 7, M. Lab 9. Quarter Hours Credit 10.
Prerequisite: None

WLD 1119-A - Basic Arc Welding and Oxy-Fuel Cutting
This course will cover the operation of the different types of AC and DC welding machines, and maintenance of welding machines. Studies are made of welding heats, polarities, and different types of welding electrodes. After the student is capable of setting up welding equipment, practice weld beads will be made in the flat and vertical positions.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

WLD 1119-B - Basic Arc Welding and Oxy-Fuel Cutting
Further studies are made on different types of welding electrodes used in joining various types of metals in the shielded metal arc welding process. The setup and use of oxy-fuel cutting equipment is learned. Practice cuts will be made. Various cutting equipment and practice welds will be made in the overhead and horizontal positions with safety emphasized throughout.
Course Hours Per Week: Class 1, M. Lab 3. Quarter Hours Credit 2.
Prerequisite: None

WLD 1119-C - Basic Arc Welding and Oxy-Fuel Cutting
This course will cover the maintenance of welding machines and oxy-fuel cutting equipment, cutting of steel to measured lengths and cutting bevels on plate steel, and making fillet welds and butt welds in all positions. Safety is emphasized throughout the course.
Course Hours Per Week: Class 2, M. Lab 3. Quarter Hours Credit 3.
Prerequisite: None

WLD 1119-D - Basic Arc Welding and Oxy-Fuel Cutting
Further studies of electrical current AC and DC, welding electrodes and fluxes, welding machines, oxy-fuel cutting equipment, gases, and different types of steel will be covered.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: None

WLD 1122 - Commercial and Industrial Practices
This course is designed to build skills through practices in simulated industrial processes and techniques: sketching and laying out on paper the size and shape description, listing the procedure steps necessary to build the product, and then actually following these directions to build the product. Emphasis is placed on maintenance, repairing worn or broken parts by special welding applications, field welding, and nondestructive testing and inspection.
Course Hours Per Week: Class 3. Quarter Hours Credit 3.
Prerequisite: WLD 1119 or WLD 1127

WLD 1123 - Inert Gas Welding (Tig, Mig, and Plasma)
This course is an introduction and practical operations in the use of inert gas arc welding. A study will be made of the equipment, operation, safety, and practice in the various positions. A thorough study of such topics as principles of operation, shielding gases, filler rods, process variations and applications, and manual and automatic welding.
Course Hours Per Week: Class 7, M. Lab 6. Quarter Hours Credit 9.
Prerequisite: WLD 1119 or WLD 1127

WLD 1124 - Pipe Welding
This course is designed to provide practice in the welding of pressure piping in the horizontal, vertical and horizontal-fixed position using shielded metal arc welding processes according to Sections VIII and IX of the ASME code.
Course Hours Per Week: Class 4, M. Lab 6. Quarter Hours Credit 6.
Prerequisites: WLD 1122, WLD 1123

WLD 1125 - Certification Practices
This course involves practice in welding the various materials to meet certification standards. The student uses various tests including the guided bend and the tensile strength tests to check the quality of his or her work. Emphasis is placed on attaining skill in producing quality welds.
Course Hours Per Week: Class 3, M. Lab 3. Quarter Hours Credit 4.
Prerequisites: WLD 1122, WLD 1123

WLD 1127 - Advanced Arc Welding
This course will be a continuation of WLD 1119 in order to give the student additional practice in welding plate steel of all thickness and in all positions to American Welding Society Codes. All safety procedures will be emphasized throughout the course. This course will enable the student to be better prepared to pass welding tests in industry and become a certified welder.
Course Hours Per Week: Class 7, M. Lab 9. Quarter Hours Credit 10.
Prerequisite: WLD 1119

EXTENDED SERVICES

CONTINUING EDUCATION

Cape Fear Community College provides training in numerous areas through its Continuing Education programs. Classes are held at the College and at various locations throughout New Hanover and Pender counties. Classes are designed to prepare individuals for employment and to upgrade workers already employed; in addition, classes are also designed to improve an adult's economic, social and cultural standing.

The Continuing Education Division also provides training for employees of area industries and public agencies. Once a need has been established, training can be offered at any time. Full details can be obtained by contacting the Dean of Continuing Education.

Admission Requirements
Generally, any individual who is 18 years of age or whose high school class has graduated is eligible for admission to continuing education classes. Applicants are usually admitted on a first come, first served basis. Some classes may have specific admission requirements. In such cases, applicants will be properly notified.

Expenses
Many of the continuing education classes are offered without charge to the students. In other classes, a $15.00 tuition fee is charged for occupational courses, and a $20.00 fee is charged for practical skill courses and avocational courses. Persons 65 years or older will be exempt from fees provided there is available space. In special cases, larger fees and/or additional fees may be charged.

Continuing Education Courses
The Continuing Education Division offers courses in the following categories:

Academic	Avocational
Occupational	Upgrading Training for Industry
Practical Skill	Public Health and Safety (EMT, Fire, Rescue)

The types and frequency of these offerings are determined by the demand and interest in a given area of study. A sampling of courses under this heading might include:

Law for the Layman	Crafts
Creative Art	Quilting
Computer Applications	Basketweaving
Manual Language	Small Engine Repair
Sewing	

Additional courses are offered as the demand becomes evident. Details of these and other courses may be obtained from the Director of Continuing Education.

HUMAN RESOURCES DEVELOPMENT PROGRAM

The Human Resources Development Program (HRD) is designed to provide carefully structured pre-vocational training/counseling and assistance in placement into permanent employment or further educational training for chronically unemployed and underemployed adults.

The primary objective of HRD is to help the jobless trainees reorient themselves to the world of work through recognition of self-assets and limitations, understanding the effect of his/her behavior on others, familiarization with problem-solving processes, and development.

HRD is the only educational program in the community college system which requires a one-year follow-up of program graduates. Since its introduction into the community college system, HRD has been the only tax supported educational program (in the public school, university, or community college systems) which is funded on the basis of performance.

For further information concerning the program, please contact Human Resources Development, Cape Fear Community College.

LITERACY EDUCATION

The Literacy Education Division of Cape Fear Community College is primarily concerned with raising the educational level of adults. The College is prepared to provide training at all educational levels from grade one (learning to read and write) up through high school completion. This training is provided through organized classes and through the school's Programmed Instruction Center.

Classes in literacy education are organized as follows:

Adult Basic Education (ABE) - A program of basic skills for adults, 16 or older, who have not graduated from high school and function at less than 9th (ninth) grade level.

General Education Development (GED) - A program of instruction for adults, 16 or older, who have not graduated from high school. function at or above the 9th (ninth) grade level, and wish to receive a High School Equivalency Certificate.

Adult High School Diploma (AHS) - a program of instruction for adults, 16 or older, who have not graduated from high school, and wish to take the courses necessary to earn a high school diploma. Program available to Pender County residents only.

Compensatory Education - A program to compensate those mentally retarded adults who have not had an education or received an inadequate one. Basic skills as well as survival skills are included.

The Programmed Instruction Center is not under the Literacy Education Division. Many Literacy Education students attend the P.I.C., but there are also many high school graduates in developmental courses and other curriculum courses who use the P.I.C. The Programmed Instruction Center provides training for those who are not able to attend the organized classes. See Programmed Instruction Center.

Admission Requirement
Any adult who has a desire to raise his or her educational level and who is able to benefit from a course may enroll in the literacy education classes.

Expenses
There is no charge for any Literacy Education class.

High School Equivalency Certificate
The State of North Carolina, through the State Board of Education permits adults (18 years of age) to take the General Educational Development Tests, (generally referred to as "the High School Equivalency Examination" GED) at test centers throughout the State. Persons who make satisfactory scores on all five sections of the test are issued the High School Equivalency Certificate by the State Board of Education. This certificate is recognized by most industries, schools, and government agencies as meeting their requirement for a high school education. Cape Fear Community College is a GED test center. The test is generally given three times each month; applications for the tests may be obtained from the College or from the office of any school superintendent.

The College provides training in the five areas covered by the examination both through organized classes and the Programmed Instruction Center.

NEW INDUSTRY TRAINING

One of the basic objectives of Cape Fear Community College is to stimulate the creation of more challenging and rewarding jobs for the people of our area by providing a customized training service to new and expanding industries. Subject to only minimal limitations, this Institution, in cooperation with the Industrial Services Division of the State Department of Community Colleges, will design and administer a special program for training the production manpower required by any new or expanding industry creating new job opportunities in North Carolina.

This program includes the following services:

1. Consultation in determining job descriptions; defining areas of training; and in prescribing appropriate course outlines, training schedules, and materials.
2. Selecting and training of instructors. These instructors may be recruited from the company and from outside sources.
3. Payment of instructors' wages for the duration of the training program.
4. Provision of suitable space for a temporary training facility prior to the completion of the new plant, should such temporary space be required. This may be space with Cape Fear Community College or leased space in the community.
5. Assumption of installation costs of equipment in the temporary training facility.
6. Payment for one-half the cost of nonsalvageable materials expended in the training program.

The purpose of this service is to help a new or expanding industry meet its immediate manpower needs and to encourage each industry to develop a long-range training program of its own to satisfy its continuing replacement and re-training needs.

For further details of this service, contact the President of Cape Fear Community College, Wilmington, North Carolina, or the Director of the Industrial Services Division, North Carolina Department of Community Colleges, Raleigh, North Carolina.

PROGRAMMED INSTRUCTION CENTER

The Programmed Instruction Center is an individualized, self-study center offering courses in many fields. It is open Monday through Friday from 8:00 AM to 10:00 PM. Coordinators are available to assist students with their studies. There are no schedules or homework, and students may enroll at any time.

Admission Requirements
Age: 18 years or older
Prerequisites: None

Expenses
Tuition or Fees: None

Programs of Study

1. College Prep - Review math, reading, English or other subjects before entering or while attending a community college or other college.
2. High School Equivalency Prep - Course work is offered for the five areas on the exam - English, social studies, science, reading, and math. The GED is given each month through the Career Planning, Placement and Testing Office. The GED pretest is also given in the lab.
3. Prepare for college entrance tests (SAT), Graduate Record Exam (GRE), National Teacher Exam (NTE), Armed Forces Vocational Aptitude Battery (ASVAB), and other standardized tests.
4. Job Training and Upgrading - Bank Teller Training and business courses.
5. Foreign Languages - Spanish, French, German, Italian, and others.
6. General Studies - A partial list includes reading comprehension, phonics, English, vocabulary, spelling, arithmetic, algebra, geometry, business math, and real estate math.

SMALL BUSINESS CENTER

The North Carolina community college system recognizes the vital role of small business entrepreneurs in our economy. Helping small business owners, or would-be owners has become a long-term investment for the community college system.

The Small Business Center at Cape Fear Community College is one of fifty small business assistance centers in the North Carolina community college system. As part of a statewide network the Small Business center works cooperatively with local organizations, state and local governments, universities and colleges, and private enterprise in promoting assistance to small business firms.

The purpose of the Small Business Center is to deliver technical and managerial assistance to small business owners and prospective owners. The range of services include: training and educational programs, counseling and referral, and a resource library of recent publications and videos on such topics as: Business Startup, Marketing, Finance, Human Resources, and Import/Export.

For further information on this service, contact the Small Business Center Director, Cape Fear Community College, Wilmington, North Carolina or The Small Business Center Network Director, North Carolina Department of Community Colleges, Raleigh, North Carolina.

B/V DAN MOORE

ADMINISTRATION, FACULTY, AND STAFF

ADMINISTRATION

E. Thomas Satterfield, Jr., Ed.D., President

Roy L. Barnhill ..... Librarian
James D. Bartlett ..... Interim Dean of Instruction
Kimberly Best-Tuten ..... JTPA Counselor
Henry J. Bethea ..... HRD Job Counselor/Evening Registrar
Stephen J. Beuth ..... R/V DAN MOORE Captain/Coordinator, Ship Operations
Thomas J. Bradshaw ..... Director, Continuing Education
Deborah G. Britt ..... Supervisor of Budgets/Payroll
Ernest D. Bryant, Jr. ..... Director, Continuing Education
Stephen R. Burtt ..... Director of Fiscal Affairs
James Canty, Jr. ..... Coordinator, Programmed Instruction Center
William A. Crawford ..... Librarian
Ada B. Davis ..... Director of Public Relations
John L. Dew, Jr. ..... Dean of Fiscal Affairs
Charlotte W. Dexter ..... Personnel Director
Linda M. Flowers ..... Administrative Assistant to the President
Kathy P. Garris ..... Administrative Assistant for Board Affairs
Gayle P. Harvey ..... Director, Small Business Center
Patricia C. Hawkins ..... Systems Administrator
Maurice C. Haynes ..... Supervisor of Maintenance
Dan H. Hickman ..... Dean of Continuing Education
Gregory L. Kennedy ..... Director, Continuing Education
Karen I. Kitchens ..... Assistant Dean/Counselor of Evening Programs
Willie B. McGough, Ed.D. ..... Audio Visual Librarian
Carl E. Malpass ..... Dean of Student Affairs
Charles W. Miller ..... Supervisor of Evening/Weekend Programs
Gwendolyn G. Morris ..... Counselor
Gwendolyn W. Murray ..... Personnel Benefits Specialist
James R. Nunn, Jr. ..... Assistant Dean of Instruction for Vocational and New Industry Programs
Mark D. O'Neal ..... Coordinator of Evening Programs
David J. Pate ..... Director of Admissions
Nell R. Pavelchak ..... Director, Continuing Education
Mary B. Rea-Poteat, Ed.D. ..... Director, Career Planning,Placement, and Testing
Betty R. Richardson ..... Director of Financial Aid

David C. Seeger ..... Assistant Dean of Instruction for Technical Programs
Clarence L. Smith ..... Director, Human Resources Development
O. Rick Stewart ..... Director of Student Activities
Barbara R. Yount ..... Director, Continuing Education
Christopher K. Zingelmann ..... Registrar

FACULTY

Musa A. Agil ..... Business Education
Gwendolyn M. Armstrong ..... Business Education
James A. Bailey ..... Criminal Justice
Sherry L. Batchelor ..... Business Education
Chauncey W. Batts, Division Director ..... Engineering
Benjamin A. Bowie ..... Machinist
Paul T. Bowie ..... Industrial Mechanics
Vivian M. Boykin ..... English
Raymond P. Brandi ..... Marine Science
Ladson W. Bright ..... English
Ted L. Brister ..... Law Enforcement
Dale R. Buck ..... Chemical Technology
Charles G. Buis ..... Drafting
Katie G. Canty, Ed.D. ..... Business Education
Orangel J. Daniels ..... English
Mary B. Dowless ..... Business Education
Sandra Z. DuMond, Director ..... LPN Nursing Program
Thomas E. Fields ..... Law Enforcement
David W. Flagler ..... Boatbuilding
Edward L. Foss, Division Director ..... Marine Science
Byron C. Geary ..... Marine and Diesel Mechanics
John C. Gonzalez ..... Electronics
Alexander F. Grant ..... Mathematics/Science
Donnie V. Greene ..... Level 1 Associate Degree Nursing Coordinator
Faye B. Hankins ..... Business Education
Edward B. Higgins, Jr., J.D. ..... Paralegal
Russel L. Holt ..... Electronics
Ronnie M. Kirkland ..... History
Mohammad L. Ilyas ..... Physics
Frances M. Irby ..... Level 1 Associate Degree Nursing
John R. Johnson ..... Machinist

Philip Jorgensen ..... Mathematics
Thera S. Lanier ..... Adult Basic Education
Charles S. Lapsansky ..... Electronics
Roy Lee McClelland ..... Marine Navigation
Delmar A. McGowan, Jr. ..... Drafting
James R. Martin ..... Biology
Mark V. Miller ..... Marine Science
Oscar A. Nelson ..... Air-Conditioning, Heating and Refrigeration
Amanda T. Noe ..... Biology
Angelo J. Parlatore ..... Automotive Mechanics
Gene B. Poe ..... Mathematics
Henry R. Price ..... Electronics
Pearl R. Rowell ..... Psychology/Sociology
Spencer J. Rummage, Jr. ..... Law Enforcement
Robert N. Russell ..... Regional Law Enforcement Training Coordinator
Robert W. Sessoms, Division Director ..... Business Education
David L. Smith ..... Light Construction
Joel S. Spencer ..... Drafting
James A. Tallant ..... Business Education
Donald L. Taylor ..... Electronics
Frances A. Teachey ..... Sheltered Workshop
John D. Thomas ..... Industrial Electricity
Aubrey C. Thompson, Jr., Division Director ..... Electronics
Joyce L. Thornton ..... English
Roland E. Tyndall ..... Business Education
Susan J. Vinson-Greene, Director ..... ADN Nursing Program
James A. Walters ..... Mathematics
Richard E. West ..... Welding
Alvin R. Williams ..... Welding

SUPPORT PERSONNEL

Joseph G. Batson ..... R/V DAN MOORE, Chief Engineer
Bethanie Benson ..... Library Clerk
Darlene W. Buck ..... Executive Secretary, Dean of Student Affairs
June M. Caulder ..... Secretary, Continuing Education
Mary Ann Deal-Cavanaugh ..... Secretary, Public Services Division/ Small Business Center
Beatrix M. Coughlin ..... Secretary, Public Relations
Mary S. Crumedy ..... Secretary, Marine Division/Ship Operations

Louie H. Cullom ..... Maintenance Mechanic
Carol A. Daniel ..... Secretary, Director of Financial Aid
Amelia S. Dixon ..... Scheduling Technician
Wallace L. Fisher ..... Boatswain
Dorothy H. Flynn ..... Switchboard Operator
Gina L. Garris ..... Evening Programs Technician
Pauline George ..... Evening Audio Visual Clerk
Joanne D. Guy ..... Secretary, Business/Engineering Divisions
Margaret C. Harris ..... Secretary, Assistant Dean of Instruction
Janet E. Howard ..... Audio Visual Technician
Nixon B. Howard ..... Computer Technician
Janet L. Huddleston ..... Secretary, Admissions Office
Linda B. Jacobs ..... Secretary, Continuing Education
David E. James ..... Maintenance Mechanic
Juanita J. Jezewski ..... Secretary, Library/Associate Degree Nursing
Shirley King ..... Library Clerk
Constance G. Kraynak ..... Executive Secretary, Dean of Instruction
Regenia A. Lewis ..... Secretary, Student Affairs
J. David Long ..... Evening Maintenance Mechanic
Clementine Marshburn ..... Secretary, Continuing Education - Pender County
Shirley Marie Millis ..... Marine Technician
Betty R. Mintz ..... Purchasing Clerk
David C. Monaghan ..... Marine Technician
Sandra J. Moore ..... Secretary, Student Affairs
Judy A. Morris ..... Secretary, Electronics Division
Harriet S. Needham ..... Library Clerk
Betty J. Northam ..... Secretary, Career Planning, Placement, and Testing
Anne C. Odin ..... LRC Automation Coordinator
Elizabeth B. Perry ..... Audio Visual Clerk
Gloria J. Phelps ..... Printing Department Clerk
Conrad M. Pope ..... Printing Department Technician
Betty R. Price ..... Secretary, Assistant Dean of Instruction
Bruce A. Raynor ..... Able-Bodied Seaman/Boat Maintenance
Janice L. Reade ..... Business Officer Clerk
Reba I. Richards ..... Telephone Operator/Secretary, Evening Program
Sheila C. Risley ..... Business Office Technician
Constance L. Rogers ..... Executive Secretary, Dean of Continuing Education
Dale G. Rusmisell ..... Equipment and Inventory Technician
Jean H. Rusmisell ..... Secretary, Continuing Education
Linda A. Sellers ..... Secretary, Admissions Office

Sadie M. Shaw ..... Secretary, Student Affairs
James A. Smith ..... Waterfront Equipment Technician
Brenda M. Stahl ..... Chemical Laboratory Technician
Kimberly J. Swift ..... Computer Systems Technician
Ann W. Tancrelle ..... Business Office Clerk
James D. Thompson ..... Maintenance Mechanic
Daniel J. Weddle ..... Electronics Technician
Deborah Whitman ..... Continuing Education Technician
Clifton D. Wilkins ..... Maintenance Mechanic
Jo N. Zimmerman ..... Drafting Technician

CAPE FEAR
COMMUNITY
COLLEGE
411 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401-3993

NON-PROFIT ORG.
U.S. POSTAGE
PAID
WILMINGTON, NC 28401
PERMIT NO. 364